GULF COAST NUMBER 50¢

The OIL WEEKLY

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THE WEEK'S NEWS INTERPRETED

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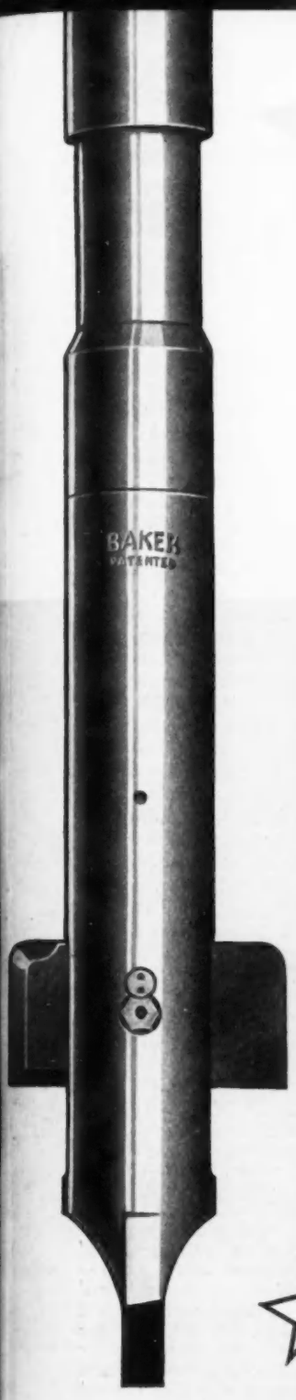
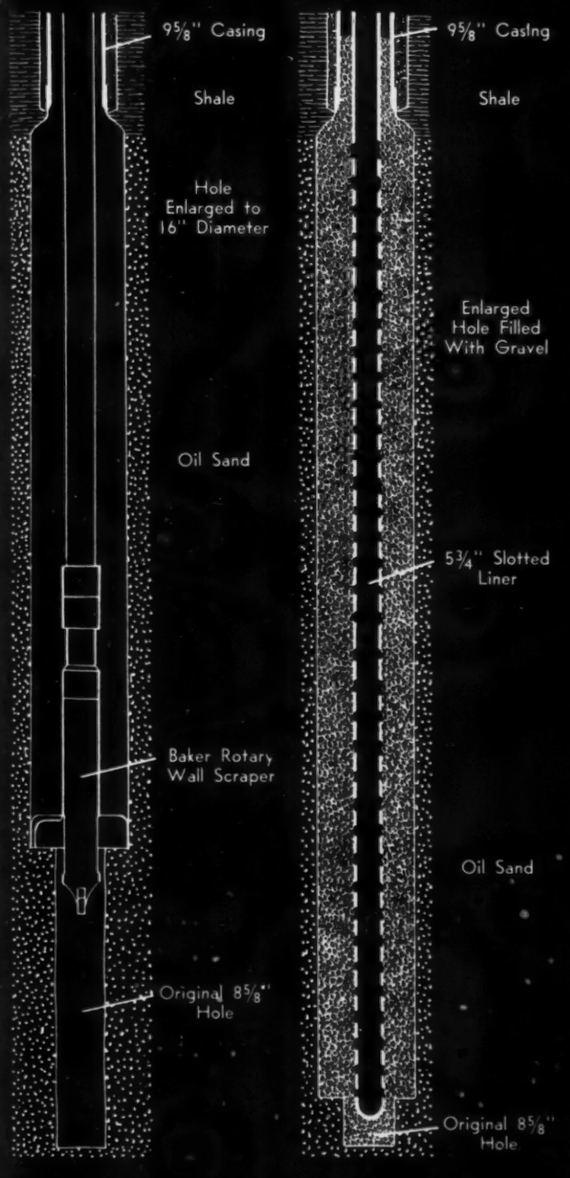


ENLARGING THE HOLE FOR GRAVEL PACKING

One of 12 Practical Field Applications for the BAKER ROTARY WALL SCRAPER



The Baker Rotary Wall Scraper is used to enlarge the hole and thus provide for a substantial packing of gravel around the liner.

Here is shown the completed job with the slotted liner landed and surrounded with gravel in the area enlarged with the Wall Scraper.

Send for Baker Broadcast No. 19

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Looking Ahead

WITH THE EDITOR

COLOSSUS OF OIL would be the way a movie publicity man would style it, but whatever you call it, the East Texas field defies all attempts to properly portray its magnitude. After 10 years its rank as the world's biggest oil field is unchallenged while incongruously remaining the oil industry's biggest headache. Beyond its vast reserve of easily obtained oil, the East Texas field has written but few lines in the annals of petroleum progress. However, its economic influence has wrought changes that will leave their imprint forever upon the industry. In a special tenth birthday anniversary article to appear in THE OIL WEEKLY, October 7, an effort will be made to trace the growth of this "giant of oil" by recounting some of its early day anecdotes, its personalities, its versatility, its paradoxes of fortunes and broken hearts, its incomprehensible statistics of unending strings of comma-grouped zeros, its political and economic upheavals, all merging into the stupendous productiveness that made the big field at its peak account for three fifths of all Texas' oil, three eighths of United States production, and 22 percent of world output.

"**WITH UNCONTROLLED** *and rapidly increasing production in Illinois, currently one of the most unfavorable market factors, the industry naturally is wondering when the boom there will reach its apex. It has been considered in some usually well informed circles that the peak of wildcat activity and production in the state would be reached this summer, and that the winter of 1939 would witness a steady and fairly fast decline.*"—From Looking Ahead With the Editor, Sept. 18, 1939. At the time of the above writing with a previous 12-month record of 31 new discoveries and daily production steadily climbing toward 300,000 barrels a day, such a forecast might have been colored by a bit of hopeful wishing. Devonian lime production at Salem, only a threat then, materialized in November and production surged upward to a level that the most optimistic Illinois booster did not dare forecast a year before. A year later, today, the peak of flush Devonian production has passed but despite a decline of 150,000 barrels a day from its June high, Illinois daily production is still 25 percent above a year ago. Maybe in our haste to grab the straw of encouragement offered by falling production we have overlooked the 30 new fields found in Illinois during the past 12 months, some of which may find a place in the sun. At any rate a newly evaluated Illinois should be worthy of consideration at this time and we are ready to give you the latest facts and figures in next week's issue.

The OIL WEEKLY, Published every Monday. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879.

THE OIL WEEKLY

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SPECIALIZED OIL JOURNALS
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The Oil Man's Calendar

SEPT. 30–Oct. 1	Liquefied Petroleum Gas Association, Omaha, Neb.
OCT. 4	Western Petroleum Refineries Association, Regional Meeting, Wichita.
7–10	American Gas Association, Atlantic City, N. J.
7–11	National Safety Congress and Exposition, Chicago.
15	National Stripper Well Association, Dallas.
16–18	Independent Petroleum Association of America, Dallas.
17–18	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Los Angeles.
24–26	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Tulsa.
25	Western Petroleum Refiners Association, Regional Meeting, Shreveport.
31–Nov. 2	Texas Mid-Continent Oil & Gas Association, Ft. Worth.
NOV. 1	California Natural Gasoline Association, Los Angeles.
	American Association of Petroleum Geologists, Pacific Section, Los Angeles.
11–15	American Petroleum Institute, Chicago.
1941 FEB. 22	North Texas Oil & Gas Association, Wichita Falls.
27–28	American Petroleum Institute, Division of Production, Southwestern District, Shreveport.

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THE OIL WEEKLY in this issue presents another of its "Gulf Coast Numbers," which represents an up-to-the-minute detailed survey of many pertinent phases of development in this outstanding producing region. As an additional service a new feature has been incorporated, a "Reader's Editorial Subject Guide Index," which should facilitate the ease of finding any of the various valuable and abundant statistical data.

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"THERE IS HARDLY ANYTHING IN THE WORLD THAT SOME MAN CANNOT MAKE A LITTLE WORSE AND SELL A LITTLE CHEAPER; AND THE PEOPLE WHO CONSIDER PRICES ARE THIS MAN'S LAWFUL PREY."

—John Ruskin

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SERVING THE OIL AND GAS INDUSTRIES

THE OIL WEEKLY

SEPTEMBER 23, 1940

VOLUME 99 NUMBER 3

The Week's Panorama

THE industry will enter the fall-winter season, in which gasoline will go to storage, with stocks of that product 15,000,000 barrels larger than necessary.

. . . The inventory totaled 83,300,000 barrels September 14 and likely will not be cut as low as 80,000,000 barrels by September 30. Yet economists have estimated that the stocks could be reduced to 65,000,000 barrels as of September 30 without dipping into essential working stocks; and after that date the normal fall-winter build-up proceeds.

. . . It may be possible for the industry to hold below normal the accumulation of gasoline in storage during the coming winter. For stocks of heating oil are more ample than usual at the beginning of autumn, and there should be less necessity for the forced manufacture of gasoline as an incident to the production of seasonally large requirements of burning oil.

. . . However, a severe winter would generate extraordinary demand for heating oil and aggravate the gasoline inventory situation.

. . . At best, the outlook for the gasoline market in late 1940 and in 1941 is dulled by the 15,000,000-barrel surplus now on hand.

. . . And a rigid holding down of gasoline yields at refineries is indicated as urgently essential.

. . . Repeatedly, when gasoline stocks have exceeded normal requirements, optimists have sought to talk down the warnings of economists. Last winter, for instance, seriously mounting gasoline stocks were regarded lightly by some men of the industry, who talked of probable heavy tourist travel because of the war, and so forth.

. . . But the economists now welcome a post mortem on the gasoline situation. For market developments have proved that they were not crying, Wolf!

. . . The retail price of gasoline, excluding tax, has steadily declined until it is below the average for the depression year of 1933. Even in 1939 the average was lowest since 1933, although about 1 cent a gallon above that depression low. Late last year the price improved, under influence of the European war. But that improvement raised the average only to the same level as in the years 1934 and 1935. And since January 1, the market has relinquished last fall's gain and considerable additional ground.

. . . The American Petroleum Institute's reports from 50 representative cities showed that the average service station price, excluding tax, was 12.33 cents a gallon September 1, 1940, against 13.40 cents September 1, 1939. By years, the average has ranged as follows: 13.31 cents in 1939, 14.07 cents in 1938, 14.59 cents in 1937, 14.10 cents in 1936, 13.55 cents in 1935, 13.64 cents in 1934, 12.41 cents in 1933, 13.30 cents in 1932, 12.98 cents in 1931, 16.16 cents in 1930, 17.92 cents in 1929.

. . . Taxing of Diesel oil used by motor vehicles is a more complicated problem than taxing gasoline. It is generally conceded that dieselized vehicles, as well as gasoline-motored vehicles, should pay their way on the highways through fuel taxes. But it is impractical to levy a highway-purpose tax on diesel oil, as on gasoline.

. . . Diesel oil is simply light fuel oil, and in most states probably 99 percent of such light fuel is used in oil burners for heating and for other non-highway purposes. To levy the tax on all that oil and then make refunds to the 99 percent of the payers, as in refunding to non-highway users of gasoline, would be like sailing westward around the globe to reach a point 250 miles to the east.

. . . The solution which has proved most practical in taxing Diesel oil used by highway vehicles has been the "use tax." employed in 11 states: California, Florida, Kentucky, Louisiana, Nevada, New Mexico, New York, Oklahoma, Virginia, Washington, and Wyoming. Diesel-powered vehicles are licensed, and the operator is required to report to the state at regular intervals the consumption of fuel by the vehicle and to pay a tax on the amount consumed, at the same rate per gallon as the state tax on gasoline.

. . . Business executives believe that the national defense program will cause substantial increases in costs of production by bringing about higher wages, higher costs of materials, and higher taxes . . . Overtime work will be costlier after October 24, when the normal work week under the wage-hour law drops from 42 to 40 hours.

. . . Despite the fact that exports have greatly dwindled, additional curtailment of foreign shipments is regarded as not unlikely, because of the ban on exports of aviation gasoline.

THE OIL WEEKLY · *Gulf Coast Number*

OIL field booms come and go with near unbelievable rapidity, being here today and somewhere else tomorrow. An exception is that southern fringe of the United States known as the Texas-Louisiana Gulf Coast area, which has been experiencing a perpetual boom since the discovery of famed Spindle Top at the turn of the century. Today, this territory is still the nation's Number One oil province and shows no signs of lessening its pace.

With this issue The OIL WEEKLY again devotes one of its editions to this outstanding oil region, in keeping with a policy which through popular demand has made this a biennial editorial feature. Emphasis placed upon the Texas-Louisiana Gulf Coast region by publication of "Gulf Coast Numbers" on March 20, 1933, July 16, 1934, March 16, 1936, and July 25, 1938, has been amply justified by the importance of succeeding events and developments. The record of the territory since publication of each of these issues has been great, consequently we take pleasure in presenting herewith The OIL WEEKLY'S fifth "Gulf Coast Number."

It is a sequel to the four previous issues and brings the industry up-to-date data on reserves, production, proven acreage, discovery means, and other pertinent information on each field and prospect in the territory. Accompanying the issue is an insert supplement map showing location of fields, prospects, refineries, pipe lines, towns and main highways.

To facilitate the ease and rapidity of finding any particular phase of the abundant statistical data in which a reader may be interested, a new feature comprising a subject index is presented below:

Readers Editorial Subject Guide Index

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September 23, 1940

Gulf Coast Looms Larger In National Oil Picture

THE Texas-Louisiana Gulf Coast, one of the world's few richest regions in petroleum, has an exceptionally promising future, holding within its boundaries one fifth of the present known producible crude oil reserves of the United States.

Even under strict proration, particularly in the Texas division, the Gulf Coast currently is furnishing 11 percent of the crude output of the country, and in recent years has established an unbroken series of new production peaks. And the conservative handling of the fields will assure important production for many years.

Furthermore, the Gulf Coast already has to its credit an impressive record of production, having put into the tanks 3 barrels of oil for every 7 barrels yet remaining under ground. The region has been yielding oil only 40 years out of the 80 since the industry had its beginning in Pennsylvania, but 7½ percent of all the oil produced in the United States has been Gulf Coast crude.

Despite the thoroughness with which the Gulf Coast has been prospected, its rate of discovering additional producing structures reveals no signs of a let-up. Therefore many new fields are to be anticipated in the future. Twenty-four new fields found in 1939 and 25 new fields found during the first 8 months of 1940, brought the total of oil and gas fields in the area at September 1, 1940, to 226. Many of these fields have two or more separate horizons that qualify as a major oil source individually.

The completion rate provides another index to the increasing importance of the territory. The 2116 completions registered during 1939 was nearly 8 percent of the U. S. total, having increased steadily to that figure from 6 percent in 1936. Indications are that completions for the territory will be up 12 percent in 1940 over 1939. Looming even larger in the point of footage drilled, the district accounted for more than 16 percent of the footage drilled in the nation during 1939, with a comparable proportion expected in 1940.

So well established and important is the Gulf Coast as a source of crude oil that 27 percent of the country's petroleum refining capacity has been concentrated in the area, although the plants are fed also by the many pipe lines that lead to tidewater from the Mid-Continent.

Of the 18 billion barrels of crude oil reserves of the United States, nearly 4 billion barrels, or over 20 percent, lie on the Texas-Louisiana Gulf Coast, with the Texas division accounting for almost 3 billion and the Louisiana portion 1 billion.

Latest available data for the United States, as of January 1, 1940, indicate a national reserve of 18,483,012,000 barrels.

Gulf Coast reserves as of July 1, 1940, have been estimated by this publication at 3,873,085,099 barrels, or 21 percent of the above United States total. The Texas Gulf Coast accounts for 2,775,928,070 barrels, and the Louisiana Gulf Coast 1,097,157,029 barrels.

The importance of the coastal region is realized better when these figures are compared with the known reserves of some other districts.

For example, the Texas-Louisiana Gulf Coast holds as much producible crude oil as the states of California, Wyoming, Montana, and Colorado combined. On January 1, 1940, the reserves of those states were estimated as follows: California, 3,532,000,000 barrels; Wyoming, 305,000,000; Montana, 93,000,000, and Colorado, 20,000,000.

The Gulf Coast has nearly nine times as much oil in reserve as the states of Illinois, Indiana and

Coast Reserves Greatest in Nation

DISTRICT	Proved Reserves (Barrels)
*Texas Gulf Coast	2,775,928,070
*Louisiana Gulf Coast	1,097,157,029
* Total Gulf Coast	3,873,085,099
Arkansas	320,148,000
California	3,532,342,000
Colorado	20,162,000
Illinois	381,636,000
Indiana	14,164,000
Kansas	725,467,000
Kentucky	44,086,000
Louisiana	†1,173,225,000
Michigan	51,078,000
Montana	93,460,000
New Mexico	687,168,000
New York	35,392,000
Ohio	31,692,000
Oklahoma	1,063,152,000
Pennsylvania	183,123,000
Texas	9,768,371,000
West Virginia	45,888,000
Wyoming	305,616,000
‡Miscellaneous	6,842,000
Total United States	18,483,012,000

* Data for Gulf Coast are as of July 1, 1940; others are as of January 1, 1940.

† Louisiana Gulf Coast reserve was increased about 365,000,000 barrels between January 1 and July 1, 1940.

‡ Mississippi, Nebraska, Tennessee, Missouri, Utah.

Gulf Coast Development Trends Are Upward

YEAR	KNOWN RESERVES			ANNUAL PRODUCTION			WELLS DRILLED ANNUALLY			NEW FIELDS FOUND		
	Louisiana	Texas	Total	Louisiana	Texas	Total	Louisiana	Texas	Total	Louisiana	Texas	Total
1935	271,869,904	1,769,982,119	2,041,852,023	41,238,196	54,963,892	96,202,088	411	1,103	1,514	8	9	17
1936	267,918,457	2,005,073,000	2,272,991,457	53,006,000	62,476,000	115,482,000	438	1,127	1,565	5	16	21
1937	437,516,000	2,359,670,000	2,797,186,000	62,036,000	72,602,500	134,638,500	477	1,537	2,014	15	15	30
1938	614,651,619	2,608,798,133	3,223,449,752	66,756,760	73,376,738	140,133,498	564	1,522	2,086	19	10	29
1939	785,712,133	2,725,146,707	3,510,858,840	68,270,982	78,293,221	146,564,203	825	1,291	2,116	14	10	24
1940 (6 mos.)	1,097,157,029	2,775,928,070	3,873,085,099	39,738,600	39,336,967	79,075,567	516	672	1,188	9	8	17

Sixteen Percent of U. S. Footage Drilled in Gulf Coast

YEAR	Texas Gulf Coast		Louisiana Gulf Coast		Total Gulf Coast	
					Percentage of U.S. Total	
	Footage Drilled	Percentage of U.S. Total	Footage Drilled	Percentage of U.S. Total	Footage	Completions
1936	5,906,387	7.6	2,528,959	3.3	10.9	5.8
1937	8,825,709	8.8	2,860,788	2.9	11.7	6.1
1938	9,358,298	10.7	3,519,297	4.0	14.7	7.4
1939	8,178,082	9.9	5,275,595	6.4	16.3	7.7
1940 (6 months)	3,934,487	8.4	3,515,398	7.5	15.9	7.9

Kentucky together. Illinois had a reserve of 381,000,000 barrels at the beginning of this year, Indiana, 14,000,000, and Kentucky 44,000,000.

The fields of the Gulf Coast are expected to produce in the future 11 times as much crude as will the Appalachian states of Pennsylvania, New York, and West Virginia, together with Ohio and Michigan. All those states combined have a reserve of approximately 350,000,000 barrels.

The Texas division of the Gulf Coast alone, accounting for less than three fourths of the region's reserve, is known to have under ground, available for recovery, as much oil as is similarly available in Oklahoma, Kansas, Arkansas, and New Mexico combined. Reserves January 1, 1940, included 1,063,000,000 barrels in Oklahoma, 725,000,000 in Kansas, 320,000,000 in Arkansas, 687,000,000 in New Mexico.

Tabulated herewith are figures from which the crude reserves of the Gulf Coast may be compared with those of other districts. Data for the Gulf Coast districts are as of July 1, 1940, having been estimated by THE OIL WEEKLY. Figures for other areas, being estimates of the American Petroleum Institute's committee on reserves, are as of January 1, 1940, but would not be greatly different now.

Almost incredibly rich in reserves is that part of the Texas Gulf Coast within a radius of 50 miles from Houston. One eighth of the present proved reserve of oil in the United States lies within 5 adjoining counties that center around Houston, those counties having within their borders 2,318,000,000 barrels of recoverable oil, out of the 18 billions estimated for the nation. The 5 counties include (1) Harris, of which Houston is the county seat, (2) Montgomery, to the north, (3) Chambers, to the east, (4) Brazoria, to the south, and (5) Fort Bend, to the southwest.

Harris and Montgomery counties have an aggregate reserve greater than that of the whole state of Oklahoma. Brazoria and Fort Bend counties, similarly, have more oil than Kansas. And Chambers County has nearly as much in reserve as Illinois.

Furthermore, a half dozen fields within the 5 extraordinary counties, individually or in small groups, are comparable with entire states in reserves. For example, Conroe (Montgomery County) and Friendswood (Harris County), together have approximately as great a reserve as Oklahoma. Friendswood and Hastings (Brazoria County) together are comparable with either Kansas or New Mexico. Individually, either Conroe or Friendswood has more oil than Illinois, or Arkansas, or Wyoming. Hastings has nearly as much as Illinois and more than Arkansas or Wyoming. Anahuac (Chambers County) has nearly as large a reserve as either Arkansas or Wyoming, and Thompsons (Fort Bend County) has more recoverable oil than Pennsylvania.

The estimated present reserves of the mentioned 5 counties of coastal Texas are as indicated herewith, data being as of July 1, 1940.

County	Barrels Yet Recoverable
Montgomery	588,000,000
Brazoria	580,000,000
Harris	543,000,000
Chambers	318,000,000
Fort Bend	289,000,000
Total 5 Counties	2,318,000,000

The estimated reserves July 1, 1940, in the mentioned exceptional fields were as herewith tabulated.

Field	Barrels Yet Recoverable
Conroe	588,000,000
Friendswood	405,000,000
Hastings	335,000,000
Anahuac	267,000,000
Thompsons	222,000,000
Total 5 Fields	1,817,000,000

Those 5 outstanding fields already have produced substantial quantities, and ultimate production will be correspondingly greater than the figures on yet-recoverable oil. Conroe has produced 112,000,000 barrels (as of July 1, 1940), and is expected to yield ultimately 700,000,000 barrels. Friendswood so far has produced only 5,000,000 barrels. Hastings has yielded 25,000,000 barrels, Thompsons, 37,000,000, and Anahuac, 13,000,000.

Much Oil Produced

The whole Texas-Louisiana Gulf Coast up to July 1, 1940, had produced 1,780,000,000 barrels of oil and the estimated reserve of 3,873,000,000 barrels indicated an ultimate output of 5,653,000,000 barrels from the fields and sands known up to that time.

Those figures included past production of 1,270,000,000 barrels on the Texas Gulf Coast, prospective output there of 2,776,000,000 barrels, and ultimate recovery of 4,046,000,000 barrels. For the Louisiana Gulf Coast corresponding figures were: recorded production of 510,000,000 barrels, a reserve of 1,097,000,000 barrels, and ultimate recovery of 1,607,000,000 barrels.

Still outranking all other Gulf Coast fields in cumulative production, although destined to be sur-

Article continued on page 59.
See tables on pages 41 to 46.

Gulf Coast Field and Sand Discoveries Made at Greater Depths

YEAR	SOUTH LOUISIANA						TEXAS GULF COAST					
	New Fields			New Sands in Old Fields			New Fields			New Sands in Old Fields		
	Total Found	Found at 10,000 Feet or Deeper	Percent Found at 10,000 Ft. or Deeper	Total Found	Found at 10,000 Feet or Deeper	Percent Found at 10,000 Ft. or Deeper	Total Found	Found at 10,000 Feet or Deeper	Percent Found at 10,000 Ft. or Deeper	Total Found	Found at 10,000 Feet or Deeper	Percent Found at 10,000 Ft. or Deeper
1936	5	0	0	..	..	....	16	1	6.2	..	..	....
1937	15	3	20.0	18	3	16.6	15	1	6.7	18	4	22.2
1938	19	3	6.8	46	4	8.8	10	1	10.0	16	4	25.0
1939	14	4	28.6	58	9	15.5	10	2	20.0	10	1	10.0
1940 (8 months)	12	4	33.3	23	5	21.8	11	4	27.5	6	2	33.3

Texas Gulf Coast Drilling, Production and Reserve Data by Fields and Counties

FIELD AND COUNTY	Age in Years	AMOUNT OF ACREAGE: Producing	AMOUNT OF ACREAGE: Proved but Undrilled	AMOUNT OF ACREAGE: Total	NUMBER WELLS 7-1-40: Flowing	NUMBER WELLS 7-1-40: Total	DAILY PRODUCTION 7-1-40: Total Field	DAILY PRODUCTION 7-1-40: Per Well	BARRELS CUMULATIVE PRODUCTION: To January 1, 1940	BARRELS CUMULATIVE PRODUCTION: To July 1, 1940: Field	BARRELS CUMULATIVE PRODUCTION: To July 1, 1940: Acre	ESTIMATED BARRELS OF ULTIMATE RECOVERY: January 1, 1939	ESTIMATED BARRELS OF ULTIMATE RECOVERY: January 1, 1940	ESTIMATED BARRELS OF ULTIMATE RECOVERY: Change	ESTIMATED BARRELS OF ULTIMATE RECOVERY: July 1, 1940: Total	ESTIMATED BARRELS OF ULTIMATE RECOVERY: July 1, 1940: Change	ESTIMATED BARRELS OF ULTIMATE RECOVERY: July 1, 1940: Acre	ESTIMATED RESERVE July 1, 1940: Field	ESTIMATED RESERVE July 1, 1940: Acre
Austin County:																			
Raccoon Bend (shallow)	13	1,624	.....	1,624	1	80	1,215	15.2	17,016,000	17,266,413	10,632	60,000,000	{18,000,000	+300,000	{18,000,000	.....	11,576	1,533,587	944
Raccoon Bend (deep)	17	[1]1,470	.....	[1]1,470	67	84	2,026	24.1	4,264,000	4,727,287	3,215		41,500,000		41,500,000	.....	28,233	36,772,713	25,018
Total	17	2,900	.....	2,900	68	164	3,241	19.7	21,280,000	21,993,700	7,538	60,000,000	60,300,000	+300,000	60,300,000	.....	20,793	38,306,300	13,210
Brazoria County:																			
Allen	8	10	.....	10	.....	1	5	5.0	90,000	90,259	9,026	100,000	100,000	.....	100,000	.....	10,000	9,741	974
Angleton (Anchor)	23	300	2,700	3,000	7	7	755	107.8	17,000	115,441	38	.....	12,500,000	+12,500,000	12,500,000	.....	4,165	12,384,559	4,127
Chocolate Bayou[20]	23	100	1,400	1,500	1	1	202	202.0	2,000	12,800	11	.....	1,500,000	+1,500,000	7,500,000	[2]+6,000,000	5,000	7,487,200	4,989
Damon Mound	39	270	.....	270	.....	30	268	8.9	9,541,000	9,591,068	35,522	10,000,000	10,000,000	.....	10,000,000	.....	37,037	408,932	1,515
Danbury	10	75	25	100	.....	11	319	29.0	282,000	336,706	3,367	1,000,000	1,000,000	.....	1,000,000	.....	10,000	663,294	6,633
Hastings	5	5,640	200	5,840	677	685	11,985	17.4	22,130,000	25,026,974	4,285	375,000,000	361,445,000	−13,555,000	360,000,000	.....	63,460	334,973,026	59,175
Hoskins Mound (abandoned 1907)	15	10	.....	10	.....	.....	.....	.....	31,755	31,755	3,175	31,755	31,755	.....	31,755	.....	3,175	.....	.....
Lochridge	4	1,600	400	2,000	41	41	1,918	47.7	1,702,000	2,153,607	1,076	24,000,000	24,000,000	.....	24,000,000	.....	12,000	22,846,393	10,924
Manvel	8	1,750	50	1,800	102	174	6,500	37.3	16,797,000	18,228,258	10,128	40,000,000	40,000,000	.....	40,000,000	.....	22,222	21,771,742	12,094
Old Ocean	6	3,900	2,100	6,000	54	54	10,428	193.0	5,836,000	7,944,835	1,324	31,423,000	161,852,000	[3]+130,429,000	161,852,000	.....	26,975	153,907,165	25,651
Pledger[25]	7	3,650	350	4,000	12	12	[24]	.....	17,068	17,068	1,706	17,068	17,068	.....	17,068	.....	1,706	.....	.....
Rowan	22	40	1,960	2,000	1	1	[26]	.....	.....	.....	.....	.....	.....	.....	8,800,000	+8,800,000	4,400	8,800,000	4,400
Sandy Point	3	220	80	300	.....	3	138	45.0	214,000	225,614	750	3,400,000	1,800,000	−1,600,000	1,800,000	.....	6,000	1,574,386	5,250
Stratton Ridge (abandoned 1933)	18	25	.....	25	.....	.....	.....	.....	12,214	12,214	488	12,214	12,214	.....	12,214	.....	488	.....	.....
West Columbia	25	500	125	625	84	114	5,599	49.1	84,216,000	85,452,204	136,723	101,800,000	101,800,000	.....	101,800,000	.....	162,880	16,347,796	[4]26,157
Total	39	18,090	9,390	27,480	979	1,134	38,117	33.6	140,888,037	149,298,803	5,433	586,229,037	714,258,037	+128,029,000	729,058,037	+14,800,000	26,539	579,759,234	21,106
Chambers County:																			
Anahuac	6	6,000	625	6,625	317	323	6,668	20.6	12,745,000	13,141,478	1,984	291,000,000	278,500,000	−12,500,000	280,000,000	+1,500,000	42,264	266,858,522	40,280
Barber's Hill (shallow)	25	70	.....	70	.....	.....	.....	.....	1,745,000	1,745,000	24,928	1,745,000	1,745,000	.....	1,745,000	.....	24,928	.....	.....
Barber's Hill (deep)	13	500	.....	500	34	156	8,997	57.7	64,895,306	65,509,454	131,018	75,000,000	73,250,000	−1,750,000	73,250,000	.....	146,500	7,740,546	15,482
Cedar Bayou	22	20	.....	20	1	1	27	27.0	3,839	8,818	440	.....	20,000	+20,000	20,000	.....	1,000	11,182	560
Cedar Point	2	380	40	420	16	16	1,081	67.5	385,000	623,555	1,484	7,200,000	11,140,000	+3,940,000	11,200,000	+60,000	26,666	10,576,445	25,282
Cotton Lake and So. C. L.	5	900	285	1,185	51	56	1,618	28.9	1,531,000	1,873,956	1,581	3,770,000	6,367,000	+2,597,000	7,000,000	+633,000	5,907	5,126,044	4,326
Fig Ridge	22	40	80	120	1	1	[26]	.....	.....	530	4	.....	.....	.....	750,000	+750,000	6,250	749,470	6,246
Lost Lake	12	65	.....	65	.....	8	81	10.1	969,000	984,242	15,344	1,250,000	1,250,000	.....	1,250,000	.....	19,230	265,758	3886
Seabreeze	5	500	500	1,000	5	5	137	27.4	227,000	255,187	255	15,000,000	9,640,000	[5]−5,360,000	9,640,000	.....	9,640	9,384,813	9,385
Turtle Bay	6	820	80	900	36	37	631	17.0	1,248,000	1,396,741	1,552	10,620,000	10,620,000	.....	10,620,000	.....	11,800	9,223,259	10,248
Willow Slough	4	500	1,100	1,600	5	5	189	37.8	257,000	301,834	188	[6]	8,640,000	[5]+8,640,000	8,640,000	.....	5,400	8,338,166	5,212
Total	25	9,795	2,710	12,505	466	608	19,429	31.9	84,006,145	85,840,795	6,864	405,585,000	401,172,000	−4,413,000	404,115,000	+2,943,000	32,316	318,274,205	25,452
Colorado County:																			
Garwood	8	100	.....	100	1	1	10	10.0	6,434	6,687	67	250,000	15,000	[7]−235,000	8,000	−7,000	80	1,313	13
Sheridan	22	80	420	500	1	1	46	46.0	.....	2,242	4	.....	.....	.....	4,500,000	+4,500,000	9,000	4,497,758	8,996
Total	8	180	420	600	2	2	56	28.0	6,434	8,929	15	250,000	15,000	−235,000	4,508,000	+4,493,000	7,498	4,499,071	7,483
Fort Bend County:																			
Big Creek	17	250	.....	250	.....	22	321	14.6	9,771,000	9,835,623	39,342	10,700,000	10,700,000	.....	12,000,000	+1,300,000	48,000	2,164,377	8,658
Blue Ridge	21	400	.....	400	6	49	814	16.6	11,089,000	11,231,961	28,080	12,000,000	12,500,000	+500,000	13,000,000	+500,000	32,500	1,768,039	4,420
Nash (abandoned 1939)	13	100	.....	100	.....	.....	.....	.....	1,651,905	1,651,905	16,519	1,660,000	1,651,900	−8,096	1,651,900	.....	16,519	.....	.....
Orchard	13	160	.....	160	4	10	155	15.5	3,651,000	3,686,057	23,037	5,000,000	5,000,000	.....	5,000,000	.....	31,250	1,313,943	8,213
Rosenberg[25]	23	50	750	800	2	2	.....	.....	6,000	6,000	7	.....	2,500,000	+2,500,000	1,000,000	−1,500,000	1,250	994,000	1,243
Sugarland	11	1,150	.....	1,150	36	51	3,393	66.5	28,648,000	29,505,722	25,657	90,000,000	90,000,000	.....	90,000,000	.....	78,260	60,494,278	52,603
Thompsons (Upper Miocene)	8	700	100	800	26	26	409	15.7	781,000				4,975,000		4,975,000	.....	6,218		
Thompsons (4300′ Miocene)	10	[8]150	[8]200	[8]350	17	17	635	37.3	43,000	36,946,629	5,809	224,975,000	8,500,000	+23,975,000	8,500,000	.....	24,314	22,008,371	34,907
Thompsons (Frio)	10	4,550	350	4,900	218	250	9,964	39.8	33,429,000				235,480,000		235,480,000	.....	48,057		
Thompsons (Vicksburg)	23	460	200	660	21	21	1,617	77.0	197,000			.....	7,500,000	+7,500,000	10,000,000	+2,500,000	15,151		
Total	21	7,820	1,400	9,220	330	448	17,308	38.6	89,265,101	92,863,897	10,072	344,335,000	378,806,904	+34,471,904	381,606,900	+2,800,000	41,388	288,743,004	31,316
Galveston County:																			
Alta Loma	22	120	700	820	1	1	3,331	[9]3331.0	.....	240,135	293	.....	.....	.....	5,400,000	+5,400,000	6,707	5,195,865	6,414
Caplen	23	100	100	200	8	8	273	34.1	44,000	98,052	493	.....	2,400,000	+2,400.000	3,000,000	+600,000	15,000	2,901,948	14,510
Dickinson-Gillock	6	3,300	900	4,200	183	191	7,350	38.4	9,172,000	10,879,382	2,590	44,750,000	44,750,000	.....	44,750,000	.....	10,654	33,870,618	8,064
Green's Lake	4	80	120	200	1	2	22	11.0	31,536	35,695	178	100,000	50,000	−50,000	1,100,000	[10]+1,050,000	5,500	1,064,305	5,322
High Island	8	330	20	350	18	59	2,456	41.6	16,034,000	16,493,442	47,124	25,000,000	25,000,000	.....	25,000,000	.....	71,428	8,506,558	24,304
Hitchcock	3	140	60	200	10	14	478	34.1	518,000	636,462	3,182	1,680,000	1,680,000	.....	1,680,000	.....	8,400	1,043,538	5,218
League City	2	550	250	800	25	25	1,727	69.0	387,000	795,966	995	18,980,000	18,980,000	.....	25,000,000	+6,020,000	31,250	24,204,034	30,255
Total	8	4,620	2,150	6,770	246	300	15,637	52.1	26,186,536	29,180,314	4,310	90,510,000	92,860,000	+2,350,000	105,930,000	+13,070,000	15,646	76,749,686	11,336

Table continued next page

Texas Gulf Coast Drilling, Production and Reserve Data by Fields and Counties—(Cont'd)

FIELD AND COUNTY	Age in Years	AMOUNT OF ACREAGE: Producing	Proved but Undrilled	Total	NUMBER WELLS 7-1-40: Flowing	Total	DAILY PRODUCTION 7-1-40: Total Field	Per Well	BARRELS CUMULATIVE PRODUCTION: To January 1, 1940	To July 1, 1940: Field	Acre	ESTIMATED BARRELS OF ULTIMATE RECOVERY: January 1, 1939	January 1, 1940	Change	July 1, 1940: Total	Change	Acre	ESTIMATED RESERVE July 1, 1940: Field	Acre
Hardin County:																			
Arriola	8	100		100	2	11	430	39.1	1,923,000	1,972,892	19,728	4,500,000	2,700,000	—1,800,000	2,700,000		27,000	727,108	7,272
Batson-Old (shallow)	37	500		500		188	631	3.8	37,661,000	37,769,012	75,558	38,300,000	38,300,000		38,300,000		76,600	530,988	1,042
Batson-New (deep)	5	150		150	4	16	489	30.5	1,824,000	1,943,642	12,958	3,500,000	3,500,000		3,500,000		23,333	1,556,358	10,375
Saratoga	39	500		500		239	855	3.6	29,116,000	29,258,164	58,501	30,000,000	30,000,000		30,000,000		60,000	764,368	1,499
Silsbee	4	1,020	80	1,100	42	45	909	20.2	1,562,000	1,775,633	1,614	8,500,000	8,500,000		8,500,000		7,727	6,724,366	6,113
Sour Lake	38	875		875	7	157	1,211	7.6	79,386,000	79,611,518	90,977	81,700,000	81,700,000		85,000,000	+3,300,000	97,143	5,398,482	6,166
Total	39	3,145	80	3,225	55	656	4,525	6.9	151,472,000	152,330,861	47,234	166,500,000	164,700,000	—1,800,000	168,000,000	+3,300,000	52,093	15,669,139	4,859
Harris County:																			
Aldine	23	29	29	29	1	1	42	42.0	16,292	26,028	98		200,000	+200,000	200,000		632	1,012,803	534
Bammel	3	1,100	800	1,900	1	1	81	81.0	144,065	161,169		1,000,000	1,000,000		1,000,000				
Clear Lake	2	1,100	600	1,700	43	43	1,021	23.8	180,000	370,739	218	33,785,000	25,600,000	—8,185,000	25,600,000		15,058	25,229,261	14,840
Clinton (Green's Bayou)	3	150	50	200	5	7	127	18.1	183,000	210,291	1,051	1,600,000	1,600,000		1,900,000		8,000	1,389,709	6,949
Eureka Heights	6	850	450	1,300	34	34	2,047	60.2	1,372,000	1,868,919	1,436	10,400,000	14,500,000	+4,100,000	14,500,000		11,153	12,631,091	9,717
Fairbanks[27]	2	3,600	1,400	5,000	276	283	5,768	20.3	3,487,000	4,814,913	962	32,000,000	32,000,000		32,000,000		6,400	27,185,087	5,438
Friendswood (Webster)	3	4,000	300	4,300	207	209	6,402	30.6	3,490,000	5,046,148	1,173	350,000,000	410,000,000	+60,000,000	410,000,000		95,349	404,953,852	94,176
Goose Creek	32	900		900		88	1,532	17.4	77,286,000	77,569,939	86,188	85,000,000	85,000,000		85,000,000		94,444	7,430,061	8,258
Hockley (abandoned 1935)	18	10		10					23,404	23,404	2,340	23,404	23,404		23,404		2,340		
Humble (shallow)	36	2,100		2,100	11	272	2,431	8.9	112,149,000	125,402,127	53,132	131,000,000	114,000,000		114,000,000		55,508	5,597,873	2,376
Humble (deep)	12	260		260					12,739,000				17,000,000		17,000,000				
Mykawa	11	350		350		30	886	29.5	3,860,000	4,024,365	11,498	5,100,000	5,100,000		5,100,000		14,571	1,075,635	3,073
North Houston	23	28	28	28	5	5	164	32.8	28	28	28	28	28	28	28	28	28	28	28
Ogburn	23	40	760	800	1	1	26								1,440,000	+1,440,000	1,800	1,440,000	1,800
Pierce Junction	19	320	30	350	10	68	1,647	24.3	33,816,000	34,152,724	97,579	42,200,000	42,200,000		42,200,000		120,571	8,047,276	22,992
Satsuma	4	500	500	1,000	10	10	303	30.3	381,000	446,268	446	3,500,000	3,500,000		3,500,000		3,500	3,053,732	3,054
South Houston	5	620	40	660	65	94	1,754	18.7	5,352,000	5,703,953	8,642	10,000,000	10,000,000		10,000,000		15,151	4,296,047	6,509
Tomball	7	8,750	250	9,000	374	437	7,527	17.2	13,938,000	15,323,303	1,702	55,000,000	55,000,000		55,000,000		6,111	39,676,697	4,400
Total	36	24,650	5,180	29,830	1,043	1,583	31,732	20.0	268,416,761	275,144,290	9,961	760,608,404	816,723,404	+56,115,000	818,163,404	+1,440,000	27,427	543,019,114	17,466
Jasper County:																			
Rockland	11	20	80	100	1	1	19	19.0	30,858	32,844	328	31,000	31,000		100,000	[11]+69,000	1,000	67,156	672
Jefferson County:																			
Amelia	4	1,250		1,250	114	114	2,265	19.9	3,596,000	4,131,874	3,305	21,200,000	21,200,000		21,200,000		16,960	17,068,126	13,655
Big Hill (abandoned 1924)	17	10		10					13,853	13,853	1,385	13,853	13,853		13,853		1,385		
Clam Lake	3	150	450	600	10	10	146	14.6	90,000	117,657	196	2,000,000	3,000,000	+1,000,000	3,000,000		5,000	2,882,343	4,704
Fannett	14	160	100	260	4	20	442	22.1	2,555,000	2,618,290	10,070	3,250,000	3,250,000		7,450,000	[12]+4,200,000	28,653	4,831,710	18,583
La Belle	3	200	300	500	1	1	27	27.0	374,000	380,439	760	5,000,000	1,000,000	—4,000,000	1,000,000		2,000	619,561	1,240
Lovell's Lake	3	900	1,700	2,600	54	54	2,068	38.3	370,000	771,958	296	20,030,000	35,430,000	+15,400,000	35,430,000		13,627	34,658,042	13,329
Nome	4	900	100	1,000	36	42	595	14.2	1,524,000	1,666,189	1,666	9,000,000	9,000,000		9,000,000		9,000	7,333,811	7,334
South China	23	200	200	400	6	7	237	33.9	17,000	61,481	153		3,600,000	+3,600,000	3,600,000		9,000	3,538,519	8,847
Spindletop	39	450		450	6	157	1,732	11.0	125,518,000	125,845,054	279,655	135,000,000	135,000,000		135,000,000		300,000	9,154,946	20,345
West Beaumont	4	450	50	500	45	54	2,714	50.3	1,906,000	2,464,553	4,929	4,320,000	4,320,000		4,320,000		8,640	1,855,447	3,711
Total	39	4,670	2,900	7,570	276	459	10,226	22.2	135,963,853	138,071,348	18,239	199,813,853	215,813,853	+16,000,000	220,013,853	+4,200,000	29,064	81,942,505	10,825
Liberty County:																			
Cleveland	7	600	100	700	9	9	156	17.3	1,178,000	1,215,836	1,736	2,750,000	2,750,000		2,750,000		3,928	1,534,164	2,192
Esperson & So. Esperson	11	750	250	1,000	17	56	1,864	33.3	5,821,000	6,181,721	6,181	8,000,000	12,700,000	+4,700,000	14,000,000	[13]+1,300,000	14,000	7,818,279	7,819
Hankamer	11	400		400	11	26	761	29.2	5,720,000	5,872,909	14,682	7,500,000	7,500,000		7,500,000		18,750	1,627,091	4,068
Hardin (Big Dome)	5	2,700	300	3,000	135	148	2,941	19.8	4,230,000	5,130,820	1,710	18,560,000	21,800,000	+3,240,000	21,800,000		7,266	16,669,180	5,556
Hull-New (deep)	8	120	30	150	5	79	3,244	41.1	8,350,000	8,933,200	59,554	11,250,000	11,250,000		11,250,000		75,000	2,316,800	15,446
Hull-Old (shallow)	22	750	650	1,400	2	95	2,015	21.2	81,177,000	81,534,141	58,238	85,000,000	85,000,000		85,000,000		60,714	3,465,859	2,476
Martha	23	100	100	200	5	6	213	35.5	27,000	69,124	345		1,440,000	+1,440,000	1,440,000		7,200	1,370,876	6,855
Moss Bluff (abandoned 1933)	10	10		10					179,235	179,235	17,923	179,235	179,235		179,235		17,923		
North Dayton	35	850		850		3	16	5.3	2,356,000	2,356,206	32,244	2,600,000	2,600,000		2,600,000		37,000	237,794	4,756
South Liberty	15	250		250	3	34	502	14.7	15,609,000	15,705,000	62,822	16,000,000	16,000,000		16,000,000		64,000	294,940	1,178
Total	35	6,530	1,430	7,960	187	456	11,712	25.7	124,647,235	127,184,192	15,978	151,839,235	161,219,235	+9,380,000	162,519,235	+1,300,000	20,417	35,335,043	4,439
Matagorda County:																			
Big Hill (abandoned 1907)	17	15		15					210,906	210,906	14,060	210,906	210,906		210,906		14,060		
Blessing[26]	22	40	560	600	1	1	26								720,000	+720,000	1,200	720,000	1,200
Buckeye-Wilson Creek[20]	8	150	200	350	4	4	157	39.2	782,000	807,414	2,307	2,000,000	2,000,000		4,000,000	[14]+2,000,000	11,428	3,192,586	9,121
Buttermilk Slough[20]	23	50	50	100	1	1	10	10.0	3,000	5,446	54		200,000	+200,000	200,000		2,000	194,554	1,946
Citrus Grove (Collegeport)[25]	23	1,800		1,800	1	1													
Hawkinsville	4	20		20					3,616	3,616	180	3,616	3,616		3,616		180		
Markham	32	210	30	240	1	30	918	30.6	7,751,000	7,932,073	33,050	11,000,000	11,000,000		11,000,000		45,833	3,067,927	12,783
McCroskey (Armour)	2	100	400	500	3	3	56	18.6	93,000	106,552	213	2,500,000	2,500,000		1,000,000	—1,500,000	2,000	894,448	1,787
North Markham	2	40	460	500	2	2	75	37.5	45,000	61,793	123	3,000,000	3,000,000		3,000,000		6,000	2,938,207	5,877
Palacios	3	100		100	1	1	12	12.0	116,000	122,431	1,224	1,000,000	265,000	—735,000	200,000	—65,000	2,000	77,569	766
South Bay City (Hamman)	4	600	400	1,000	41	41	2,772	67.6	1,650,000	2,103,570	2,103	8,500,000	15,000,000	+6,500,000	30,000,000	+15,000,000	15,000	13,896,930	12,897
Van Vleck (Bay City)	6	1,160	140	1,300	12	19	2,048	100.8	2,724,000	3,317,865	2,552	24,000,000	30,000,000	+6,000,000	35,000,000	+5,000,000	26,923	31,682,135	24,371
Total	32	2,210	1,430	3,640	60	96	5,881	61.2	12,379,000	13,644,284	3,748	50,000,000	61,765,000	+11,765,000	80,200,000	+18,435,000	22,329	66,555,716	18,581

Table Continued next page

Texas Gulf Coast Drilling, Production and Reserve Data by Fields and Counties—(Cont'd)

Table Continued next page

Texas Gulf Coast Drilling, Production and Reserve Data by Fields and Counties—(Cont'd)

FIELD AND COUNTY	Age in Years	AMOUNT OF ACREAGE			NUMBER WELLS 7-1-40		DAILY PRODUCTION 7-1-40		BARRELS CUMULATIVE PRODUCTION			ESTIMATED BARRELS OF ULTIMATE RECOVERY						ESTIMATED RESERVE July 1, 1940	
									To January 1, 1940	To July 1, 1940		January 1, 1939	January 1, 1940	Change	July 1, 1940				
		Producing	Proved but Undrilled	Total	Flowing	Total	Total Field	Per Well		Field	Acre				Total	Change	Acre	Field	Acre
Montgomery County:																			
Conroe	9	18,900	100	19,000	963	987	26,164	27.1	107,531,000	112,046,094	5,897	700,000,000	700,000,000		700,000,000		36,842	587,953,906	30,945
West Conroe[25]	23	20	180	200	1	1													
Total	9	18,920	280	19,200	964	988	26,164	27.1	107,531,000	112,046,094	5,897	700,000,000	700,000,000		700,000,000		36,842	587,953,906	30,945
Newton County:																			
Call (abandoned)	3	100		100					15,376	15,376	153	15,376	15,376		15,376		153		
Orange County:																			
Orange (shallow)	27	400		400		37	494	13.4	32,598,000	32,688,640	81,721	33,000,000	33,000,000		40,000,000	+7,000,000	100,000	7,311,360	18,279
Orange-West (deep)	3	300	150	450	44	46	1,722	37.7	1,000,000	1,347,870	2,995	7,875,000	7,875,000		8,000,000	+125,000	17,777	6,652,130	14,782
Port Neches & West P. N.	12	300	200	500	14	26	958	36.9	5,225,000	5,400,091	10,800	10,000,000	10,000,000		10,000,000		20,000	4,599,909	9,200
Total	27	1,000	350	1,350	58	109	3,174	29.2	38,823,000	39,436,601	29,212	50,875,000	50,875,000		58,000,000	+7,125,000	42,962	18,563,399	13,750
Polk County:																			
Ace (Schwab) (shallow)	6	200		200	2	2	28	14.0	145,300	217,355	1,086	500,000	500,000		500,000		2,500	282,045	1,414
Ace-Wilcox	22	200		200	4	4	256	64.0	67,300	134,861	675		1,500,000	+1,500,000	1,000,000	—500,000	5,000	865,139	4,325
Livingston	7	1,820		1,820	24	85	1,553	18.3	5,522,000	5,841,486	3,209	18,000,000	12,000,000	—6,000,000	10,000,000	—2,000,000	5,494	4,158,514	2,285
Segno (shallow)	4	450	50	500	34	37	1,135	30.7	1,647,000	1,852,836	3,705	5,500,000	5,500,000		5,000,000	—500,000	10,000	3,147,164	6,295
Segno (Wilcox)	2	[15]650	[15]1,550	2,200	57	58	2,624	45.2	504,000	984,541	447		25,000,000	+25,000,000	25,000,000		11,363	24,015,459	10,916
Total	7	2,970	1,450	4,420	121	186	5,596	29.8	7,885,600	9,031,079	1,998	24,000,000	44,500,000	+20,500,000	41,500,000	—3,000,000	9,181	32,468,421	7,183
Tyler County:																			
Joe's Lake	3	850	1,950	2,800	32	32	1,415	45.3	767,000	1,067,141	381	15,000,000	25,000,000	+10,000,000	30,000,000	+5,000,000	10,714	28,932,859	9,333
Spurger	22	40	300	340	1	1	83	83.0		10,589	31				2,000,000	+2,000,000	5,882	1,989,411	5,851
Total	3	890	2,250	3,140	33	33	1,498	45.5	767,000	1,077,730	343	15,000,000	25,000,000	+10,000,000	32,000,000	+7,000,000	10,141	30,922,270	9,798
Waller County:																			
Brookshire (San Felipe)	6	50		50	1	1	4	4.0	21,000	[16]21,382	420	500,000	100,000	—400,000	100,000		2,000	78,618	1,580
Katy[25]	5	200		[17]200					83,376	83,376	416	83,376	83,376		83,376		416		
Total	6	250		250	1	1	4	4.0	104,376	104,758	418	583,376	183,376	—400,000	183,376		733	78,618	1,580
Washington County:																			
Brenham	14	50		50		34	13	0.5	368,000	371,799	7,436	500,000	500,000		500,000		10,000	28,201	7,564
Clay Creek (Gay Hill)	13	325		325	2	48	368	7.0	4,319,000	4,380,600	13,479	6,000,000	6,000,000		6,000,000		18,461	1,619,400	4,982
Total	14	375		375	2	82	381	4.6	4,687,000	4,752,399	12,673	6,500,000	6,500,000		6,500,000		17,333	1,747,601	4,660
Wharton County:																			
Boling	15	250		250	33	78	1,208	15.5	6,719,000	6,960,717	27,842	7,500,000	8,500,000	+1,000,000	11,000,000	+2,500,000	44,000	4,039,283	16,158
East Bernard[20]	22	40	960	1,000	1	1	55	55.0		4,761	23				960,000	+960,000	960	960,000	960
Hillje	23	200	200	400	1	2	170	85.0	3,000	15,844	39		750,000	+750,000	750,000		1,875	734,156	1,836
Lissie		Gas field discovered August, 1940, by Gulfboard Oil Corporation's completion of Strake Petroleum Corporation's abandoned Poole 1 as dry gas well in Yegua at 6728-34 feet.																	
Louise	7	1,700		1,700	33	42	879	20.9	2,665,000	2,833,421	1,666	6,528,000	6,528,000		10,000,000	+3,472,000	5,882	7,166,579	4,216
Mackey (Borden Abel)	22	40	160	200	1	1	55	55.0		4,761	23				600,000	+600,000	3,000	595,239	2,977
Magnet	4	600	900	1,500	46	48	1,285	27.8	833,440	1,086,617	724	10,000,000	15,000,000	+5,000,000	15,000,000		10,000	13,913,383	9,276
Pickett Ridge-Kubela	5	1,200	800	2,000	52	55	1,597	28.9	2,605,000	2,945,044	1,472	10,000,000	10,000,000		15,000,000	[18]+5,000,000	5,000	7,054,956	3,528
Spanish Camp[25]	4	1,280		1,280	8	8													
Withers-Five Corners	4	3,800		3,800	184	187	4,447	23.7	3,188,626	4,188,417	1,102	20,000,000	20,000,000		20,000,000		5,263	15,811,583	4,161
Total	15	9,110	3,020	12,130	[19]351	[19]414	9,641	23.3	16,014,166	18,034,821	1,486	54,028,000	60,778,000	+6,750,000	73,310,000	+12,532,000	6,043	55,275,179	4,557
Total Texas Gulf Coast	39	118,245	34,520	152,765	5,243	9,626	204,341	21.1	1,230,369,478	1,270,095,115	8,319	3,666,703,281	3,955,516,185	+288,812,904	4,046,023,185	+95,507,000	26,485	2,775,928,070	18,166

[1] 194 acres underlapping shallow sand are not included in county total.
[2] Field extended 1½ miles east in May, 1940.
[3] Upward revision based on extensions; release of authentic information.
[4] Vicksburg production exhausted 1939.
[5] Changes in ultimate production given for Seabreeze and Willow Slough are not actual, but facilitate breakdown of estimate for January 1, 1939.
[6] Included with Seabreeze.
[7] Salt water intrusion.
[8] Overlapping acreage—not included in calculating recoveries for all sands combined, nor in county total.
[9] Flowing under partial control.
[10] New Miocene sand discovered April 28, 1940. Estimated ultimate production 1,000,000 bbls.
[11] New sand discovered March, 1940. Field previously abandoned.
[12] New Frio sand northwest flank found January 25, 1940. Estimated ultimate production 4,200,000 bbls.
[13] Allowance for new gas and oil sand 8314 feet.
[14] Extension of Wilson Creek production, June, 1940.
[15] 350 producing acres and 150 proven acres underlapping shallow sand are not included in county totals.
[16] Shut in January, February, March, April, 1940.
[17] 200 acres applies to distillate production now exhausted. 5000 acres are proved for gas, with 8000 acres potentially productive. 11 wells.
[18] Deeper Frio sand found January 22, 1940. Estimated ultimate 5,000,000 bbls.
[19] Excludes gas wells at Spanish Camp.
[20] Distillate field.
[21] Not a true distillate field; gas spraying heavy oil.
[22] 1940 discovery.
[23] 1939 discovery.
[24] Oil reserve at Pledger exhausted 1935.
[25] Gas field.
[26] Discovery well testing at July 1, 1940.
[27] Includes Rosslyn and North Houston.
[28] Included in Fairbanks.
[29] Included in Bammel.

South Louisiana Production and Reserve Data by Fields and Parishes

FIELD AND PARISH	Age in Years	AMOUNT OF ACREAGE: Producing	Proved but Undrilled	Total	NUMBER WELLS 7-1-40: Flowing	Total	DAILY PRODUCTION 7-1-40: Total Field	Per Well	BARRELS CUMULATIVE PRODUCTION: To January 1, 1940	To July 1, 1940: Field	Acre	ESTIMATED BARRELS OF ULTIMATE RECOVERY: January 1, 1939	January 1, 1940	Change	July 1, 1940: Total	Change	Acre	ESTIMATED RESERVE July 1, 1940: Field	Acre
Acadia Parish:																			
Bayou Mallet	4	100		100	5	5	220	44.0	255,000	295,999	2,960	1,000,000	1,000,000		1,000,000		10,000	704,010	7,040
Bosco (Cankton)	6	1,500		1,500	56	56	5,147	91.8	18,759,000	19,643,250	13,095	25,000,000	25,000,000		30,000,000	+5,000,000	20,000	10,356,750	6,905
East Tepetate (Richie)[1]	[3]	20	80	100	1	1	[2]								350,000	+350,000	3,500	350,000	3,500
Jennings (Evangeline)	39	480	150	630	97	169	14,000	82.9	70,918,000	73,861,000	11,700	106,275,000	106,275,000		130,000,000	+23,725,000	20,620	56,139,000	8,920
North Crowley	3	360	140	500	26	26	4,305	160.8	1,219,000	1,907,969	3,816	11,928,000	8,100,000	−3,828,000	8,100,000		16,200	6,192,031	12,384
North Tepetate	[4]	200	200	400	4	4	120	30.0	67,000	91,937	230	2,000,000	2,000,000		2,000,000		5,000	1,908,063	4,770
South Crowley (abandoned 1938)	4	20		20					2,000	2,000	100	2,000	2,000		2,000		100		
Tepetate	3	1,400		1,400	54	54	4,900	90.2	7,510,000	8,548,204	6,100	20,000,000	20,000,000		25,000,000	+5,000,000	17,870	17,451,796	11,770
West Mermentau[1]	[3]	20	380	400	1	1	[2]								500,000	+500,000	1,250	500,000	1,250
Total	39	4,100	950	5,050	244	316	28,692	90.8	98,758,692	107,014,350	21,190	166,205,000	162,377,000	−3,828,000	196,952,000	+34,575,000	37,810	89,937,650	16,620
Allen Parish:																			
North Elton[1]	[4]	320		320	2	2													
Ascension Parish:																			
Darrow	7	140	70	210	15	15	2,015	134.3	3,556,000	3,973,526	18,900	10,000,000	11,885,000	+1,885,000	11,885,000		56,500	7,911,474	37,600
Sorrento	11	75	25	100	6	6	200	33.3	1,086,000	1,129,000	11,290	2,500,000	2,500,000		2,500,000		25,000	1,371,000	13,712
Total	11	215	95	310	21	23	2,215	96.3	4,642,000	5,102,526	16,450	12,500,000	14,385,000	+1,885,000	14,385,000		46,400	9,282,474	29,950
Avoyelles Parish:																			
Eola	[4]	1,000	1,000	2,000	81	87	10,223	117.5	1,002,000	2,831,541	1,415		54,000,000	+54,000,000	75,000,000	[5]+21,000,000	37,500	72,168,459	36,085
Beauregard Parish:																			
Bancroft	2	600	900	1,500	44	44	3,520	80.2	921,000	1,716,102	1,115	5,740,000	16,600,000	+10,860,000	20,000,000	[6]+3,400,000	13,300	18,283,898	12,185
Neale	[3]	250	750	1,000	2	2	500	250.0		15,250	15				10,000,000	+10,000,000	10,000	9,984,750	9,985
Total	2	850	1,650	2,500	46	46	4,020	87.5	921,000	1,731,352	695	5,740,000	16,600,000	+10,860,000	30,000,000	+13,400,000	12,000	28,268,648	11,305
Calcasieu Parish:																			
Edgerley	27	215		215		15	300	20.0	8,605,000	8,659,000	40,300	8,750,000	9,000,000	+250,000	10,000,000	+1,000,000	46,500	1,341,000	6,200
Gillis-English Bayou	5	870	205	1,075	26	48	4,771	99.3	18,359,000	19,443,986	18,100	23,000,000	24,000,000	+1,000,000	24,000,000		22,300	4,556,014	3,200
Iowa	8	950	50	1,000	41	49	8,800	179.5	39,293,000	41,496,000	41,496	52,500,000	52,500,000		60,000,000	+7,500,000	60,000	18,504,000	18,500
Lockport	15	300		300		24	1,065	44.4	15,210,000	15,378,000	51,300	20,000,000	20,000,000		20,000,000		66,800	4,622,000	15,500
Perkins[1]	[4]	40		40	1	1													
Starks	12	90	10	100		24	460	19.5	2,961,000	3,017,918	30,179	5,000,000	5,000,000		5,000,000		50,000	1,982,082	19,821
Sulphurmines	13	240	40	280	10	65	2,900	44.5	14,050,000	14,449,635	51,600	20,000,000	20,000,000		25,000,000	[5]+5,000,000	89,400	10,550,365	37,800
Vinton	30	270		270		74	1,160	15.7	43,433,000	43,640,000	162,000	50,000,000	50,000,000		50,000,000		185,000	6,360,000	23,000
Total	30	2,975	305	3,280	78	300	19,456	64.8	141,911,000	146,084,539	44,538	179,250,000	180,500,000	+1,250,000	194,000,000	+13,500,000	59,146	47,915,461	14,608
Cameron Parish:																			
Big Lake (abandoned 1939)	4	160		160					75,000	75,000	468	1,000,000	75,000	−925,000	75,000		468		
Black Bayou	10	210	40	250	11	20	2,650	132.5	7,016,000	7,559,842	30,250	10,000,000	10,000,000		12,000,000	+2,000,000	40,000	4,440,158	9,750
Cameron Meadows	[4]	220	80	300		33	2,065	62.6	7,096,000	7,725,375	24,250	15,000,000	15,000,000		15,000,000		50,000	7,724,625	25,750
Chalkley	[4]	650	1,350	2,000	14	14	1,250	89.2	228,000	626,782	313	500,000	14,500,000	+14,000,000	20,000,000	+5,500,000	10,000	19,373,218	9,678
Creole	3	200	300	500	11	11	1,400	127.2	732,000	1,066,080	2,132	12,500,000	12,500,000		12,500,000		25,000	11,433,920	22,868
Grand Lake	[4]	200	300	500	15	15	4,100	273.3	151,000	512,227	1,024		8,000,000	+8,000,000	10,000,000	[9]+2,000,000	20,000	9,487,773	18,976
Hackberry (East)	13	500	100	600	[10]	62	4,942	79.7	23,230,000	24,130,000	40,200	33,000,000	33,000,000		33,000,000		55,000	8,870,000	14,800
Hackberry, Old	13	300		300	56	111	4,865	43.9	6,391,000	7,091,000	23,600	16,100,000	16,100,000		20,000,000	+3,900,000	66,667	12,909,000	43,067
Sweet Lake	13	90	10	100	6	8	1,465	183.2	4,270,000	4,395,094	43,950	7,500,000	7,500,000		7,500,000		75,000	3,104,906	31,050
Total	13	2,530	2,180	4,710	113	274	22,736	82.9	49,099,000	52,731,400	11,196	95,600,000	116,675,000	+21,075,000	130,075,000	+13,400,000	25,725	77,343,600	14,529
East Baton Rouge Parish:																			
University	3	510	230	740	[11]67	67	8,902	133.1	1,623,000	3,388,411	4,575	5,767,000	13,300,000	+7,533,000	13,300,000		17,980	9,911,589	13,405
Evangeline Parish:																			
Pine Prairie (abandoned 1919)	27	20		20					20,000	20,000	1,000	20,000	20,000		20,000		1,000		
Ville Platte[12]	3	990	1,510	2,500	118	118	15,815	134.2	4,289,000	7,071,094	2,830	37,125,000	54,500,000	[13]+17,375,000	54,500,000		21,800	47,428,906	18,970
Total	27	1,010	1,510	2,520	118	118	15,815	134.2	4,309,000	7,091,094	2,813	37,145,000	54,520,000	+17,375,000	54,520,000		21,365	47,428,906	18,970
Iberia Parish:																			
Bayou Pigeon	[3]	40	200	240	1	1	250	250.0		15,250	63				2,000,000	+2,000,000	8,340	1,984,750	8,277
Fausse Point	5	20	30	50	3	3	70	23.3	21,000	43,097	862	1,000,000	1,000,000		2,000,000	[14]+1,000,000	20,000	1,956,903	19,138
Jefferson Island	2	20	30	50	5	5	1,085	217.0	175,000	330,651	6,612	2,500,000	2,500,000		2,500,000		50,000	2,170,651	43,388
New Iberia	12	210	40	250	56	79	8,042	102.0	18,846,000	20,369,692	81,400	40,000,000	42,000,000	+2,000,000	45,000,000	[15]+3,000,000	180,000	24,630,308	98,600
Vermilion Bay	[4]	40	60	100	1	1	150	150.0	54,000	110,577	1,105		2,000,000	+2,000,000	3,000,000	[16]+1,000,000	30,000	2,889,923	28,995
Total	12	330	360	690	66	79	9,597	121.5	19,096,000	20,869,267	30,245	43,500,000	47,500,000	+4,000,000	54,500,000	+7,000,000	78,985	33,630,733	48,740

South Louisiana Production and Reserve Data by Fields and Parishes—(Cont'd)

FIELD AND PARISH	Age in Years	AMOUNT OF ACREAGE: Producing	Proved but Undrilled	Total	NUMBER WELLS 7-1-40: Flowing	Total	DAILY PRODUCTION 7-1-40: Total Field	Per Well	BARRELS CUMULATIVE PRODUCTION: To January 1, 1940	To July 1, 1940: Field	Acre	ESTIMATED BARRELS OF ULTIMATE RECOVERY: January 1, 1939	January 1, 1940	Change	July 1, 1940: Total	Change	Acre	ESTIMATED RESERVE July 1, 1940: Field	Acre
Iberville Parish:																			
Bayou Blue	10	20		20	1	3	175	58.3	91,000	131,172	657	100,000	170,000	+70,000	500,000	[17]+330,000	25,000	268,828	24,343
Bayou Des Glaise	3	20	80	100	1	1	125	125.0		3,750	37				1,500,000	+1,500,000	15,000	1,496,250	14,963
Choctaw	8	75	75	150	9	13	1,250	96.2	2,639,000	2,842,156	18,980	7,500,000	7,500,000		7,500,000		50,000	4,657,844	6,020
White Castle	13	180	80	260	10	12	2,200	183.3	3,495,000	3,812,342	14,650	5,000,000	10,000,000	+5,000,000	6,500,000	—3,500,000	25,000	2,687,658	10,350
Total	13	295	235	530	21	29	3,750	129.3	6,225,000	6,789,420	12,809	12,600,000	17,670,000	+5,070,000	16,000,000	—1,670,000	50,188	9,210,580	37,379
Jefferson Parish:																			
Barataria	4	20	180	200	5	5	976	195.2	17,000	121,516	607		2,400,000	+2,400,000	5,000,000	[18]+2,600,000	25,000	4,878,484	24,393
La Fitte	5	1,745	880	2,625	46	46	12,975	282.0	17,725,000	[20]369,123	7,750	70,000,000	126,347,000	+56,347,000	140,000,000	+13,653,000	53,300	119,630,877	45,550
Total	5	1,765	1,060	2,825	51	51	13,951	273.5	17,742,000	20,490,639	7,218	70,000,000	128,747,000	+58,747,000	145,000,000	+16,253,000	51,320	124,509,361	44,102
Jefferson Davis Parish:																			
Nibletts (Hayes)	19	40	260	300	1	1	80	80.0							500,000	+500,000	1,670	500,000	1,670
Roanoke	5	900		900	18	23	1,965	85.4	7,852,000	8,058,386	8,960	13,400,000	13,750,000	+350,000	13,750,000		15,300	5,691,614	6,340
South Elton	3	10	90	100	1	1	85	85.0	25,000	28,305	283	3,225,000	3,250,000	+25,000	3,250,000		32,500	3,221,695	32,217
South Jennings[1]	4	100	400	500	3	3			43,000	63,888	128	5,200,000	1,000,000	—4,200,000	500,000	—500,000	100,000	436,112	872
South Roanoke (Lake Arthur)	3	700	1,300	2,000	8	8	1,300	162.5	334,000	551,285	263	1,000,000	6,000,000	+5,000,000	6,000,000		2,860	5,448,715	2,597
Welsh	36	50		50		13	40	3.1	627,000	595,227	11,904	750,000	750,000		650,000	—100,000	13,000	54,773	1,096
Woodlawn	3	120	130	250	14	15	2,290	152.6	664,000	1,058,141	4,220	2,500,000	8,700,000	+6,200,000	8,700,000		34,800	7,641,859	30,580
Total	36	1,920	2,180	4,100	45	64	5,760	90.0	9,545,000	10,355,232	2,525	26,075,000	33,450,000	+7,375,000	33,350,000	—100,000	8,134	22,994,768	5,609
LaFourche Parish:																			
Bayou Perot (Delta Farms)	3	40	360	400	1	1	150	150.0							500,000	+500,000	1,250	500,000	1,250
Chacahoula	4	40	60	100	6	6	1,250	208.3	396,000	602,473	6,024	2,000,000	2,000,000		2,000,000		20,000	1,397,527	13,976
Golden Meadows	4	190	510	700	115	119	11,070	93.4	749,000	2,551,319	3,640	1,000,000	20,000,000	+19,000,000	25,000,000	+5,000,000	35,000	22,448,681	31,360
LaFourche Crossing	4	40	110	150	3	3	600	200.0	36,000	113,219	755		3,000,000	+3,000,000	1,000,000	[20]—2,000,000	6,667	886,781	5,912
Lake Long	3	180	420	600	11	11	1,300	118.2	790,000	1,047,731	1,740	8,720,000	8,720,000		8,720,000		14,500	7,762,269	12,760
Leeville	11	350		350	8	77	2,950	38.2	20,746,000	21,650,323	64,600	30,000,000	30,000,000		30,000,000		85,600	8,349,697	21,000
Raceland	3	100	400	500	4	4	1,200	300.0	746,000	931,045	1,862	7,500,000	7,500,000		7,500,000		15,000	6,568,955	13,138
Timbalier Bay	3	40	160	200	2	2	200	100.0	89,000	126,105	630	1,000,000	1,000,000		1,000,000		5,000	873,895	4,370
Valentine	3	230	20	250	21	27	2,510	92.6	3,751,000	4,218,014	16,872	16,720,000	16,720,000		16,720,000		66,880	12,502,000	50,008
Total	11	1,210	2,040	3,250	171	250	21,250	85.0	27,303,000	31,240,229	9,612	66,940,000	88,940,000	+22,000,000	92,440,000	+3,500,000	28,443	61,199,771	18,831
Plaquemines Parish:																			
Garden Island Bay	11	140	110	250	22	22	2,625	119.3	2,447,000	2,912,219	11,625	5,000,000	18,750,000	+13,750,000	18,750,000		75,000	15,837,781	63,375
Grand Bay	4	280	720	1,000	21	21	3,310	157.6	548,000	931,611	931	5,000,000	15,000,000	+10,000,000	30,000,000	+15,000,000	15,000	29,068,389	14,069
Lake Hermitage	5	60	40	100		2	50	25.0	141,000	148,710	1,487	1,000,000	1,000,000		1,000,000		10,000	851,290	8,513
Lake Washington	8	160		160	7	7	525	75.0	2,680,000	2,786,803	17,417	5,000,000	5,000,000		6,000,000	+1,000,000	37,500	3,213,197	20,083
Potash	11	30	120	150	6	6	700	116.6	127,000	230,735	1,538	240,000	3,000,000	+2,760,000	3,000,000		20,000	2,769,265	18,462
Quarantine Bay	2	500	700	1,200	24	24	4,425	184.3	1,165,000	1,856,289	1,546	10,000,000	21,940,000	+11,940,000	30,000,000	+8,060,000	25,000	28,143,711	23,454
Venice	3	70	180	250	14	14	2,355	168.2	1,187,000	1,549,503	6,198	15,000,000	22,000,000	+7,000,000	25,000,000	+3,000,000	100,000	23,450,497	93,802
Total	11	1,240	1,870	3,110	94	96	13,990	145.7	8,295,000	10,415,870	3,349	41,240,000	86,690,000	+45,450,000	113,750,000	+27,060,000	36,575	103,334,130	33,226
Rapides Parish:																			
Cheneyville	5	310	90	400	24	24	2,575	107.2	794,000	1,303,577	2,258	3,940,000	3,940,000		3,000,000	—940,000	7,500	1,696,423	5,31
St. Bernard Parish:																			
Kenilworth	4	20	80	100	1	1	225	225.0	8,000	51,992	519		1,800,000	+1,800,000	800,000	—1,000,000	8,000	748,008	7,481
St. Charles Parish:																			
Bayou Des Allemandes	3	90	410	500	4	4	250	62.5	158,000	222,068	444	3,000,000	3,000,000		3,000,000		6,000	2,777,932	5,566
Paradis	4	70	1,730	1,800	4	4	900	225.0	18,000	95,294	53		27,000,000	+27,000,000	[24]140,000,000	+113,000,000	77,777	139,904,706	77,724
Total	3	160	2,140	2,300	8	8	1,150	144.5	176,000	317,362	138	3,000,000	30,000,000	+27,000,000	143,000,000	+113,000,000	62,173	142,682,638	62,035
St. James Parish:																			
LaPice[1]	4	50	50	100	2	2			4,000	4,000	40		1,000,000	+1,000,000	1,000,000		10,000	996,000	9,960
Vacherie (Convent)	4	50	150	200	1	1	60	60.0	40,000	52,991	265	2,000,000	2,000,000		3,000,000	+1,000,000	15,000	2,947,009	14,735
Total	4	100	200	300	3	3	60	60.0	44,000	56,991	189	2,000,000	3,000,000	+1,000,000	4,000,000	+1,000,000	13,333	3,943,009	13,144
St. John Parish:																			
LaPlace		50	50	100	1	1			4,172	4,172	41		250,000	+250,000	250,000		2,500	245,828	2,459

South Louisiana Production and Reserve Data by Fields and Parishes—(Cont'd)

FIELD AND PARISH	Age in Years	AMOUNT OF ACREAGE: Producing	AMOUNT OF ACREAGE: Proved but Undrilled	AMOUNT OF ACREAGE: Total	NUMBER WELLS 7-1-40: Flowing	NUMBER WELLS 7-1-40: Total	DAILY PRODUCTION 7-1-40: Total, Field	DAILY PRODUCTION 7-1-40: Per Well	BARRELS CUMULATIVE PRODUCTION: To January 1, 1940	BARRELS CUMULATIVE PRODUCTION: To July 1, 1940: Field	BARRELS CUMULATIVE PRODUCTION: To July 1, 1940: Acre	ESTIMATED BARRELS OF ULTIMATE RECOVERY: January 1, 1939	ESTIMATED BARRELS OF ULTIMATE RECOVERY: January 1, 1940	ESTIMATED BARRELS OF ULTIMATE RECOVERY: Change	ESTIMATED BARRELS OF ULTIMATE RECOVERY: July 1, 1940: Total	ESTIMATED BARRELS OF ULTIMATE RECOVERY: July 1, 1940: Change	ESTIMATED BARRELS OF ULTIMATE RECOVERY: July 1, 1940: Acre	ESTIMATED RESERVE July 1, 1940: Field	ESTIMATED RESERVE July 1, 1940: Acre
St. Landry Parish:																			
Port Barre	13	390	110	500	10	35	2,328	66.5	8,083,000	8,258,961	16,516	16,000,000	16,000,000		20,000,000	[21]+4,000,000	40,000	11,741,039	23,484
St. Martin Parish:																			
Anse La Butte	38	50		50	6	15	760	50.6	967,000	1,013,800	20,276	1,100,000	1,100,000		5,000,000	[22]+3,900,000	100,000	3,986,200	79,724
Bayou Bouillon	38	50		50		2	60	30.0	566,160	578,800	11,576	750,000	750,000		750,000		15,000	171,200	3,424
Happytown	[4]	20	380	400	1	1	275	275.0	14,000	71,478	178		5,000,000	+5,000,000	5,000,000		12,500	4,928,522	12,322
Henderson (Plumb Bob)	[4]	10	90	100	2	2	500	250.0	21,000	69,685	696		1,750,000	+1,750,000	1,750,000		17,500	1,680,315	16,804
Lake Mongoulouis (shut in)	[4]	50	50	100					4,731	4,731	47	1,000,000	1,000,000		1,000,000		10,000	995,269	9,953
St. Martinsville	5	60	40	100	2	2	350	175.0	1,003,000	1,084,966	10,849	2,000,000	2,000,000		4,000,000	+2,000,000	40,000	2,915,034	29,151
West Lake Verrett	[4]	40	60	100	3	3	500	166.6	136,000	205,336	2,053	1,000,000	1,000,000		3,000,000	+2,000,000	30,000	2,794,664	27,947
Total	38	280	620	900	14	25	2,445	97.8	2,589,491	3,028,796	3,365	5,850,000	12,600,000	+6,750,000	20,500,000	+7,900,000	22,777	17,471,204	19,412
St. Mary's Parish:																			
Bateman Lake (Berwick)	3	200	1,000	1,200	6	6	1,000	166.6	397,000	581,844	484	1,000,000	17,000,000	+16,000,000	8,000,000	—9,000,000	6,666	7,418,156	6,182
Charenton	4	620	130	750	49	168	8,010	47.6	3,787,000	5,527,227	7,369	5,500,000	12,500,000	+7,000,000	28,000,000	+15,500,000	27,333	22,472,773	19,369
Horseshoe Bayou	3	60	440	500	5	5	1,200	240.0	588,000	792,472	1,584	10,500,000	10,500,000		12,000,0000	+1,500,000	24,000	11,207,528	22,416
Jeanerette	5	230	20	250	23	24	3,415	142.2	7,540,000	8,186,872	32,747	12,000,000	12,000,000		32,000,000	+20,000,000	128,000	23,813,128	95,253
West Cote Blanche	[3]	40	160	200	1	1	190	190.0		5,700	28				1,000,000	+1,000,000	5,000	994,300	4,972
Total	5	1,150	1,750	2,900	84	204	13,815	67.7	2,312,000	15,094,115	5,204	29,000,000	52,000,000	+23,000,000	81,000,000	+29,000,000	27,931	65,905,885	22,727
Terrebonne Parish:																			
Bay St. Elaine	6	60	115	175	3	4	500	125.0	265,000	326,501	1,865	1,500,000	3,500,000	+2,000,000	7,000,000	+3,500,000	40,000	6,673,499	38,135
Caillou Island	10	390	110	500	35	45	6,380	141.7	26,585,000	29,107,079	58,214	50,000,000	50,000,000		92,500,000	+42,500,000	185,000	63,392,921	126,786
Dog Lake	5	60	40	100	8	8	715	89.3	1,739,000	1,843,677	18,436	5,000,000	5,000,000		10,000,000	+5,000,000	100,000	8,156,323	81,436
Four Isle (abandoned)	13	15		15					283,162	283,162	18,877	283,162	283,162		283,162		18,877		
Gibson (Bayou Cocadris)	3	305		305	14	14	3,520	251.4	2,526,000	3,188,319	10,453	4,480,000	5,225,000	+745,000	[23]18,000,000	+12,775,000	59,016	14,811,681	48,563
Lake Barre	11	320	80	400	9	22	920	41.8	17,245,000	17,412,250	43,530	25,000,000	20,000,000	—5,000,000	24,000,000	+4,000,000	60,000	6,587,750	16,470
Lake Pelto	11	90	20	110	13	13	1,450	111.5	1,553,000	1,819,853	16,544	6,600,000	[24]6,600,000		7,500,000	+900,000	68,181	5,680,147	51,637
Lirette[1]	3	324		324	3	3			34,000	39,539	122	2,511,000	357,000	—2,154,000	357,000		1,101	317,461	979
South Houma	2	50	150	200	2	2	400	200.0	160,000	260,755	1,303	2,400,000	2,400,000		3,000,000	+600,000	15,000	2,739,245	13,697
West Dulac (DeLarge)	2	20	80	100	1	1	175	175.0	49,000	87,152	871	6,397,000	590,000	—5,807,000	1,000,000	+410,000	10,000	912,848	9,129
Total	11	1,634	595	2,229	87	112	14,060	134.4	50,439,162	54,368,287	24,391	104,171,162	93,955,162	—10,216,000	163,640,162	+69,685,000	73,415	109,271,875	49,024
Vermilion Parish:																			
Abbeville	3	50		50	11	11	545	49.6	379,512	504,919	10,098	9,520,000	9,520,000		2,000,000	—7,520,000	40,000	1,495,081	29,902
Erath	[3]	40	560	600	1	1	70	70.0							2,400,000	+2,400,000	4,000	2,400,000	2,400
Gueydan	8	50	50	100	3	5	420	84.0	1,040,000	1,095,728	10,957	2,000,000	2,000,000		2,000,000		20,000	904,272	9,043
West Gueydan	8	150	350	500	6	6	750	125.0	152,000	270,363	540	1,786,000	1,786,000		1,786,000		3,572	1,515,637	3,032
Total	8	290	960	1,250	21	23	1,785	77.6	1,571,512	1,871,010	1,415	13,306,000	13,306,000		8,186,000	—5,120,000	6,540	6,314,990	5,125
TOTAL SOUTH LOUISIANA	38	24,654	22,260	46,914	1,471	2,238	218,800	97.7	456,493,029	510,491,133	10,880	939,829,162	1,242,205,162	+302,376,000	1,607,648,162	+365,443,000	34,268	1,097,157,029	23,388

[1] Gas-distillate field.

[2] Discovery well testing at July 1, 1940.

[3] 1940 discovery.

[4] 1939 discovery.

[5] Cockfield production discovered June, 1940.

[6] New 7518 foot Eocene sand opened in 1940.

[7] Dry gas field.

[8] 6200 foot Oligocene sand opened in 1940.

[9] 8505 foot Miocene sand opened in 1940.

[10] Not known.

[11] Includes 3 gas wells.

[12] Total for all sands; Haas, Tate (Eocene), and Wilcox. Data for Wilcox alone: Producing acres, 60; total proven acres, 1000; cumulative production to July 1, 1940, 22,636 bbl.; estimated ultimate production, 17,500,000 bbl.

[13] Discovery of Wilcox production, 1939.

[14] Discovery of 1150 foot cap-rock production, 1940.

[15] Discovery of 7745 foot Miocene production, 1940

[16] Revision of former figure.

[17] Discovery of 5062 foot production, 1940.

[18] Discovery of 8765 foot Miocene production, 1940.

[19] Field reverted to prospect July, 1940, by failure to obtain commercial production in discovery well.

[20] Sand conditions proven poor, with much lateral change, by 1940 drilling.

[21] Discovery of 6050 foot production, 1940.

[23] Discovery of 4680 foot Breaux sand, 1940.

[25] Probable maximum under existing conditions. A conservative estimate would be 9,000,000 bbl.

[26] Nominal estimate. Due to absence of exact information, semi-authoritative estimates vary from 27,000,000 to 180,000,000 bbls.

Gulf Coast Development Trend Is Away From Salt Domes

By JOHN M. VETTER

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ANNALS of the petroleum industry in the Gulf Coast are closely associated with salt domes. It is logical, therefore, that the oil fraternity commonly thinks of Gulf Coast production in terms of salt dome structures, although the trend of discoveries has been away from that order of things for some time past. The search for accumulation on partly explored salt domes of course has continued; but this phase of exploration has been secondary during the past few years to the development of a new type of structure which has no apparent relation to salt domes. The purpose of this article is to summarize geological trends and to point out the vast change which has taken place in this respect during the past few years. In this connection, it is probably a fair statement that no other oil producing district in the world has more diversified types of structural accumulations than are now found in Coastal fields of Texas and Louisiana. For that reason, the Gulf Coast geologist must be versatile in his approach to a solution of structural problems.

Three Prospecting Ages

Development history of the Gulf Coast may be divided into three chronological stages according to structural types of fields: first, the piercement type salt dome; second, deep-seated or non-piercement type salt domes; and third, non-salt dome structures with closure on downthrown side of faults. The first two are well known to all experienced Gulf Coast operators. The third type is not so well known as it is comparatively new and has no counterpart in any other oil producing section of this country. Producing fields could be mentioned which do not strictly conform to any of the three classifications as some have the characteristics of more than any one type.

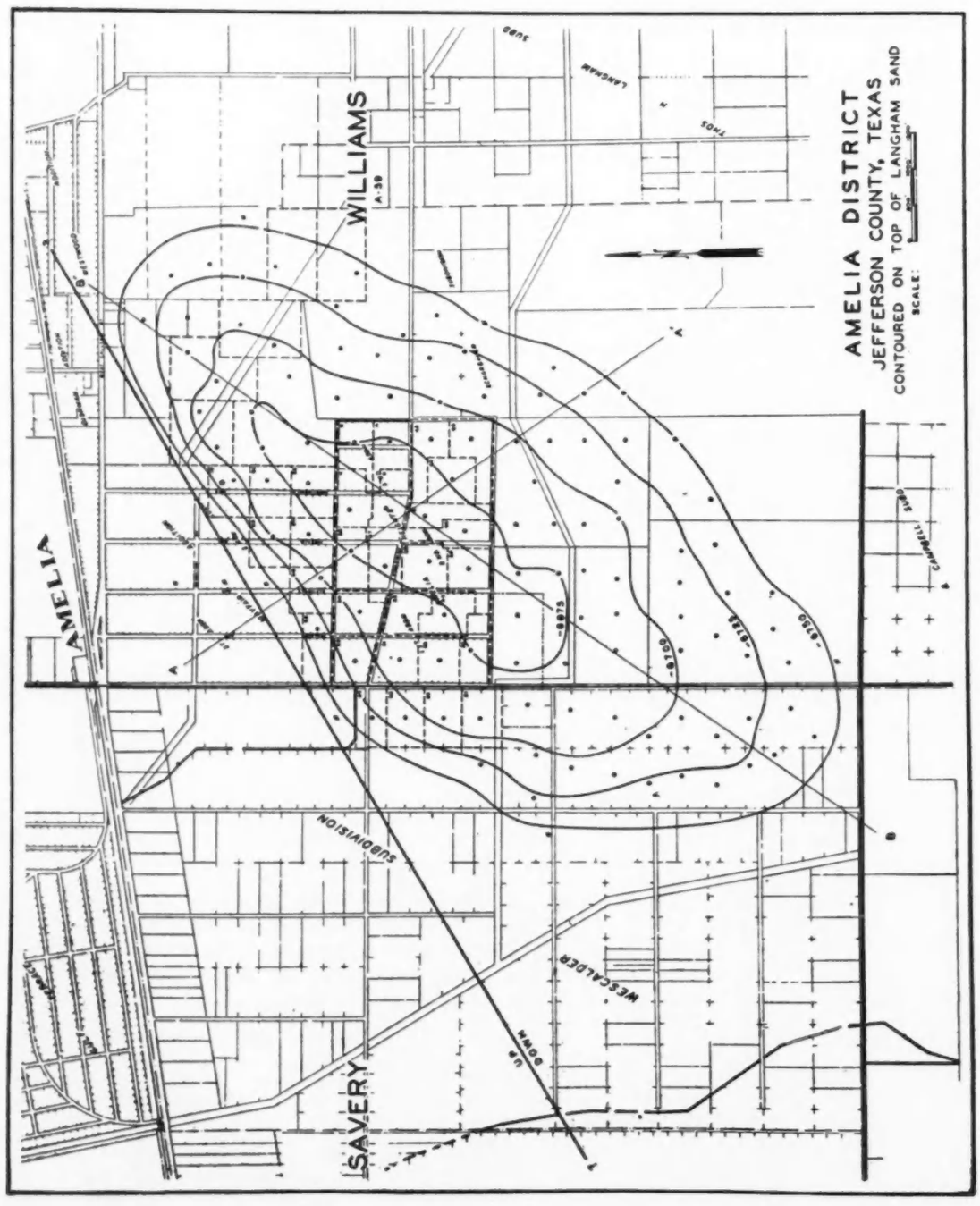
With regard to the initial group, there is a certain amount of romance sunrrounding discoveries in the Gulf Coast during that period of from 1901 to 1923 when Coastal operators boasted of such prolific fields as Spindle Top, Humble, Jennings, Vinton, West Columbia, and others. The word "romance" is used advisedly in referring to discoveries which occurred in that period because it was then that the Gulf Coast rightfully gained the reputation of being a hazardous place to operate. This applies not only to the operator, but likewise to the geological engineer. Due to the paucity of surface indications, the science of geology in the early days could be applied only crudely to the search for hidden structures. The most technically trained geologist could do little more than apply a good measure of horse sense in locating wildcat wells after attempting to decipher the significance of topographic features, paraffin dirt, mineralized water, and gas seeps. Unfortunately these surface indications had no definite arrangement with respect to the buried salt plug; hence, the position of the plug was determined largely through the process of elimination, i.e., by means of the drill. This naturally increased the ratio of dry holes to producers as many suspicious looking topographic expressions failed to have structural significance. Furthermore, drilling hazards were not eliminated after delineation of the plug as flanking sands which afford a trap for accumulation followed no definite pattern from dome to dome. It is a noteworthy tribute to Coastal pioneers, however, that the thirty-odd domes found by these crude methods subsequently accounted for reserves aggregating a total in excess of one and a quarter billion barrels of oil.

The advent of geophysics in 1924 revolutionized the job of locating piercement type domes, as the torsion balance and seismograph afforded an efficient method for detecting salt plugs obscurely hidden from the surface. Geophysical exploration accounted for thirty-odd more shallow domes in a period of approximately five years. Some of these domes are still under the process of development, but the accumulated ultimate reserves now appear to represent less than four hundred million barrels of additional oil.

Since the supply of undiscovered shallow salt domes was practically exhausted by 1928, the geologist and geophysicist were henceforth obliged to drift away from typical

salt dome geology and adopt revised ideas on the tectonic history of the coastal plains. It was then that the non-piercement type structure received attention, especially so after the discovery of Conroe and Thompson in 1931. By that time, there was vast advancement in exploration technique; geophysicists discarded the refraction seismograph in favor of the more concise reflection method. Paleontologists had assembled sufficient data from research to permit comprehensive subsurface correlations. This, combined with electrical logging, enabled the geologist to work out complicated fault patterns that invariably exist on structures of this type. Hastings, Anahuac, and Dickinson are good examples of intensely faulted deep seated salt dome structures. Fields that fall in that classification are as a rule more prolific and are much larger in areal extent than piercement dome fields. This second group of structures yielded handsome returns to the industry through more than one hundred productive fields that should ultimately produce upwards of four billion barrels of oil and an undetermined amount of gas.

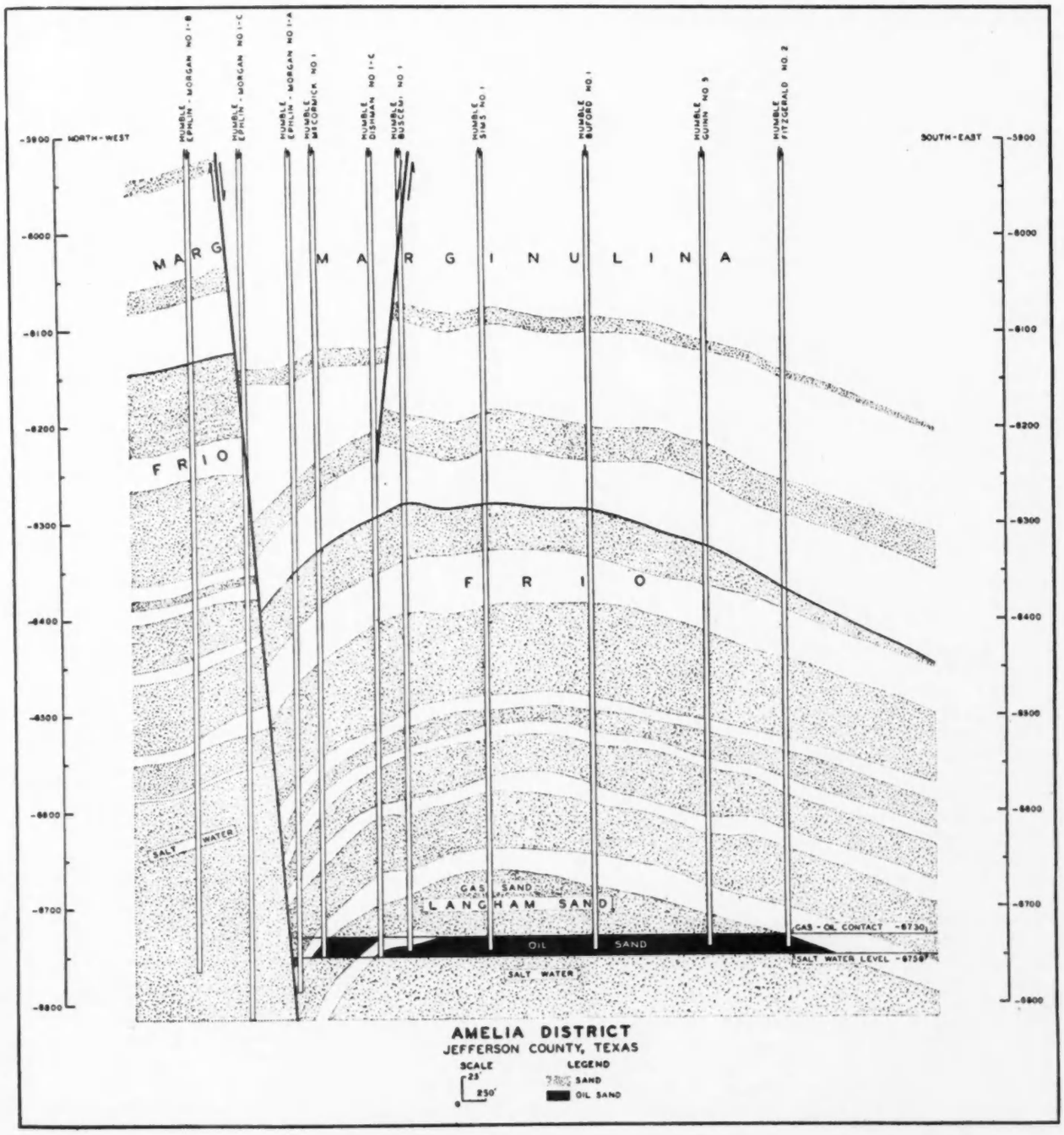
The third stage, as herein defined, had its inception as early as 1933. Fields which may be assigned to that classification were being discovered and developed during the next few years without full appreciation of their structural significance. It was observed that wells structurally high frequently failed to produce, whereas, wells situated on the downthrow side of recognized faults made producers. In time, sufficient data was accumulated to permit full recogni-



Geologic structure map of Amelia field. Contours based on top of Lanham sand, subsea depths in feet.
—Taken from article by Ed J. Hamner in A.A.P.G. Bulletin, November, 1939.

tion of this paradoxical type of productive structure with a comparatively small amount of structural relief caused largely by closure against the downthrown side of faults. Amelia, Tepetate, and Joe's Lake are among fields which furnish the first classic examples, although Hardin, Louise, and West Beaumont are early discoveries belonging to this group. More recent discoveries are Lovell's Lake, Neale, and probably Sheridan. The last two mentioned are in the so-called Wilcox trend and it is safe to hazard a guess that many more fields of this type will eventually produce from the Wilcox sand.

It is interesting to note that this type of field is far less complicated structurally than those directly caused by salt intrusion. This condition is a distinct advantage from the standpoint of development, but the lack of pronounced uplift offers increased problems to those charged with the responsibility of discovery. It is, therefore, a challenge for geologists and geophysicists to improve exploration technique to meet the demands of future needs in the Gulf Coast.



Geologic section through Amelia field from northwest to southeast along line AA′ in preceding illustration

—Taken from article by Ed J. Hamner in A.A.P.G. Bulletin, November, 1939.

Advancements Continue to Be Made in Geophysical Field

RECENT progress in geophysical exploration methods has been confined largely to advancements in practices inaugurated prior to 1938. Changes, improvements and additions have been prominent in the equipment field, while more accurate interpretation of data has resulted in several important oil discoveries in districts that had been previously worked with geophysics.

In the seismograph field a number of improvements have been made, though more or less of a routine character of instrumental development. Much more is known of the results obtained by mixing traces to eliminate unwanted energy, and several areas have become workable through intelligent application of such devices.

In spite of this, the outstanding improvement probably lies in the proper appreciation of the geologic problem at hand and selection of proper technique. In the heavily worked areas the geophysical problem now is chiefly to map low dip structures or solve fault problems.

To survey satisfactorily such features requires complete subsurface coverage by some continuous method and proper attention to details of corrections. Proper attention to these factors has advanced accuracy to a greater point than ever before, without important changes in instruments. An era of greater attention to field and calculation technique, rather than any revolutionary change in instruments seems to lie ahead for the seismograph.

Application of the reflection seismograph has been broadened gradually to meet exacting conditions in new districts, as well as to give satisfactory results at greater depths in the older and intensely worked areas. Good reflections are being obtained from depths out of reach of the drill, a reverse limitation from that shown by the old refraction seismograph and even the early models of the reflection instrument.

Excellent reflections have been obtained from below 15,000 feet along the Gulf Coast, a depth now regarded greater than that necessary for development of satisfactory reserves. In California reflections have been obtained consistently in some regions from horizons down to 40,000 feet with dynamite charges of 5 to 20 pounds. Mapping of good reflection beds to depths of 20,000 to 26,000 feet has been the usual practice in many surveys conducted in the southern part of the San Joaquin Valley. Many excellent signs point to development of production below 15,000 feet in this valley.

Advancement in the seismograph has not been without its serious problems. The search for oil-bearing structures below 12,000 feet requires highly refined instruments and exact methods of interpretation. In recording the deeper reflected waves it is necessary to use instruments that are 10 to 30 times as sensitive as those used a few years ago in mapping shallow structures. Ground unrest is amplified along with the reflections, and obviously increased sensitivity alone is not the solution, except where the ratio of ground noise to the amplitude of the reflected wave can be reduced.

Use of an increased number of seismometers on each camera tree, and by optimization of the permissible frequency discrimination of the record system have been important factors in reducing this ratio. The frequency components of significance in the reflections from very deep horizons are vastly different from those in reflections from shallow markers, and for this reason effective reception of these very deep reflections requires a different choice of frequency discrimination than that in ordinary use. Automatic volume control is an important factor, and facilitates the production of good seismograms at great depths. Early reflections from depths below 10,000 feet meant little because of lack of sensitivity of recording instruments.

Marked progress has been made in the interpretation of data. The re-working of districts, particularly along the Gulf Coast and in California, have led to several important discoveries. Faults and extensions have been difficult for the seismograph to follow, but considerable progress has been made toward mapping structures of irregular shape. A more daring interpretation of data has yielded several Gulf Coast fields in old producing districts.

The sharp decrease in the number of seismic crews employed in California and along the Gulf Coast does not indicate a gradual discarding of this exploration method. As many as 100 seismic crews were used along the Gulf Coast about 1937, but this number has declined to less than 50. Around 35 crews were employed in California in 1938, but about 18 crews now are working. The discovery cycle seems to be tapering off in California, but the Texas-Louisiana Gulf Coast showed a good record during the past year, despite fewer seismic crews. The reduced number of crews probably has been the result of a slight over-enthusiasm in 1937 and 1938, and to a natural decline following fruitful discovery periods in major producing areas using the seismograph. Seismic work at the present reduced rate may be at its optimum, and an increase may be expected with greater oil demands.

Developments in gravitational methods of exploration reflect increased interest in this type of work. Several new makes of gravity meters have been introduced since the first part of 1939, and outright purchase of three or four different types is now possible without delay. A recent survey showed more than 225 gravity meters in use in all parts of the world, nearly all in oil exploration work. Of this total about half were manufactured by four American firms and four American oil companies, and half were made by three European concerns. Of the

65 to 80 gravity meters in operation in the United States, all but 8 are of American manufacture.

The gravity meter is primarily an instrument for determining mass distribution of formations. It supposedly is not affected by higher formations nearby, and is used effectively in low areas immediately surrounded by hills. The work done by the gravity meter is similar to that done by the torsion balance, but the principles involved are different. Both are primarily used for reconnaissance exploration.

Large areas are being extensively worked from a reconnaissance standpoint with gravity meters. In the United States it is the practice to cover the designated area somewhat uniformly with a network of stations ranging between extremes of one station to four square miles and 10 stations to one square mile. A good average for current gravity meter field work now under way is a density of one to three stations per square mile, or one station to each 200-600 acres. It is possible to complete an observation (make a station) in five or six minutes, the number of stations made often being limited by the ability of the technical force to keep up with the gravity meter. An average gravity meter crew makes about 30 stations per day, although as many as 60 stations have been made. Costs vary from $4 to $9 per station. Under favorable conditions it is possible for an outlay of around $5000 to obtain a reconnaissance gravity survey of a 1200-square-mile area in five weeks' time.

The most accurate gravity meters now in use have an instrumental accuracy of ± 0.02 milligals, which is nearer precision than is practical to utilize. Most surveys are made with an accuracy of ± 0.05 milligals, a requirement calling for the horizontal control (traversing) of each station to ± 300 feet, and the vertical control (leveling) of each station to ± nine inches. The horizontal control sometimes is obtained from airplane maps, but it is always necessary to obtain the vertical control by taking levels, except in marshes, swamps and lakes.

Two oil companies have developed submarine gravity meters that are lowered to the bottom of bodies of water and are observed at the surface. One gravity meter of this type is working in 50 feet of water.

The torsion balance still has a definite exploration value in detailed work, when the observed gradient and curvature values can be studied, rather than the integral of these values. Another good use of the torsion balance is for detailing structures that cannot be detailed or evaluated by the seismograph because of poor records, lack of penetration, and the like. Although more expensive to operate than the gravity meter, the torsion balance has about the same accuracy.

Soil analysis, a form of geochemical prospecting, is one of the newer exploratory methods holding promise. There were only two laboratories in the United States working on soil analysis four years ago, but now there are more than 15 laboratories. Of the total, about half are major company laboratories and the remainder are smaller organizations interested in contract operations.

Soil analysis as a prospecting medium principally takes into consideration the nature of hydrocarbons contained in samples of the soil, but other constituents are also considered. The halo pattern has been found to hold for many soil constituents that fall generally into three groups. The first and most important are the soil hydrocarbons that are identical with those found in the underlying petroleum deposit, and some of which apparently are due to leakage therefrom. The second group of soil constituents is composed of organic compounds of secondary origin, being those formed locally in the soil itself as the result of chemical reactions. The oxidation-condensation-polymerization of the petroleum hydrocarbons themselves, or the modification of organic matter of local origin due to catalytical, photochemical and/or bacteriological action apparently are among these chemical reactions. The third group represents local abnormal concentrations of inorganic material in the soil.

Thus, soil analysis has developed into a wide field of endeavor, and the number of techniques used and constituents sought have become numerous. During the early development of this exploration method, gas or vapor was drawn from the shallow holes and sent to the laboratory for analysis. That method was not satisfactory, since porosity of the soil permitted entry of ordinary air into the hole. Some of the more important gases also had a tendency to cling or stick to the soil and could not be obtained in representative quantities.

In searching for favorable gas shows, obviously the heavier hydrocarbon gases are desired. Ethane, propane and butane gases usually are present above oil-bearing structures, while the more common methane gas is found everywhere. Presence of the heavier petroleum hydrocarbons, even in small quantities, calls for close examination of an area. Other soil constituents also have an important bearing on oil accumulations.

When the same micro-analytical procedure used in soil analysis is applied to well cuttings and cores, the concentration depth patterns of the petroleum hydrocarbons are used for making the geochemical well log. This technique recently was introduced and is reported to have led to the discovery of two fields, when test wells already officially abandoned at contract depths were carried deeper to production on the basis of determinations from the chemical logs. Field laboratories have been developed for making the necessary analytical measurements.

The magnetometer still is used with good results in locating possible oil-bearing structures. The magnetic method has been chiefly used to determine the structure of magnetizable zones at various depths to 20,000 feet. The magnetic content of rock strata increases with depth, terminating in the highly magnetic crystalline basement rocks. This method discloses the structural configuration of the deep strata with greater facility than in the overlying formations, and should find a substantial place in still deeper exploration work along the Gulf Coast. A photoelectric recording unit has been developed for use with the magnetometer.

The electrical transient, an instrument for measuring and checking the conductivity of surface formations, has been used some along the Gulf Coast. The soil above an oil field usually does not show the same conductivity as that in non-producing areas, the inventor states.

The gamma ray method of logging inside cased holes is regarded by many as a geophysical exploration method, since it can locate possible oil producing formations that have been passed up previously while drilling. Its application to the study of old fields is worthy of considerable attention, according to geologists who have followed the method.

Complex Structures of Wilcox Trend Being Unraveled

By JOHN D. TODD
Roper & Todd, Consulting Geologists, Houston, Texas, and Jackson, Mississippi

THE Eola discovery of nearly two years ago, touched off an era of Gulf Coast prospecting in the Wilcox trend which rivaled the post Conroe-Cockfield boom. While the post Eola - Wilcox era was not characterized by the vast volume of trend leasing, in geophysical work and in drilling it did compare with the period which followed Conroe. And from the number of Wilcox fields so far located, it appears that the Wilcox play will result in more producing structures than its earlier Cockfield pattern.

The Eola strike seemed to come at a time when the industry was ready for something new, and this then dormant trend caught the fancy of operators immediately. In the past two years millions of dollars have been spent in this trend for geophysical work, for leases, and for drilling. The results of these earlier efforts have not been as fruitful as was hoped for, but it now begins to appear that we have only started to unravel the unbelievably complex structural problems of this trend.

The prospecting of this trend is still in full swing, having lately revived from its earlier plethora of disappointments. It seems timely that we should now attempt to evaluate what has transpired during the past two years, and to appraise what can reasonably be expected in the future.

The Past Two Years

During the past two years millions of acres of leases have been taken in the Wilcox trend. In contrast to the post Conroe days, this leasing was quite selective. The principal reasons motivating the purchase of leases were: (1) surface prospects (2) subsurface prospects, based largely on Cockfield data (3) old marginal seismic prospects, and (4) known torsion balance anomalies. The gravity anomalies probably accounted for half of the leasing.

In many cases the geological reasons which led to the purchase of the leases were thought cogent enough to warrant the drilling of a Wilcox test well immediately. The results of thus drilling old, unchecked prospects was most disappointing; and in the limelight of hindsight it now appears that few if any of those prospects should have been drilled without a thorough seismic survey. In retrospect it seems that some of the areas where Wilcox tests were drilled not only lacked structure, but even lacked evidence of structure; with the result that some of the dry Wilcox tests lack even the doubtful distinction of being "monuments to science."

Most of the leased areas which were not drilled immediately after Eola, have since been checked with modern seismic surveys. The results of thus checking old prospects has likewise been disappointing, as the percentage of old prospects which have proven to be closed seismic structures has been quite small. The mortality on the older gravity prospects was particularly alarming.

A very sizeable percentage of the prospects leased have not as yet been tested; and it is true that some of the most promising areas are held by strong companies under long-term leases with cheap rentals, so that there is no reasonable expectation of development soon. In other cases very attractive areas are still complicated by post Conroe lease spreads, which have made development difficult if not impossible. It is impossible to consider the value of such acreage in our present appraisal, except to mention it in passing and to note that its deferred development will continue to keep this trend active for a number of years to come.

What We Have Learned

We have learned that this trend covers such an enormous area, extending from Alabama to Mexico, as to make generalities especially dangerous. In its various parts the trend and its local possibilities is dominated by the regional structure of that area; so that in one set of counties the Wilcox's possibilities is dominated by a syncline and in another by an arch. We already know that these regional features alter the thickness and character of the Wilcox sediments in some ways, and it is probably true that they control the part of the Wilcox section that will produce and the amount and kind of structure needed for an oil field. These lateral changes in regional structure cause the thickness of the Wilcox section to vary from 2000 to 5000 feet, and cause the salt water level to vary from 1300 to 5000 feet; no doubt they cause other equally radical variations of which we do not yet know.

In the past two years, earlier opinion seems to have been confirmed to the effect that the portion of the Wilcox below —10,000 feet has only limited possibilities. Most of the wells penetrating the Wilcox below —10,000 feet have found the section quite tight and shaly, and an exhaustive study of this point by Dr. J. Archer Culbertson[1] has shown that both permeabilities and porosities do decrease with depth and that the gravity of the oil in the Wilcox

[1] "The Down Dip Wilcox, of Coastal Texas and Louisiana" as delivered by Dr. J. Archer Culbertson, of Continental Oil Company, at the convention of the American Association of Petroleum Geologists on April 12, 1940, and soon to appear in the AAPG Bulletin.

tends to increase with depth. This decrease in porosity and permeability seems to proceed very rapidly after it once sets in. The outstanding exception to the gloomy outlook for the deeper Wilcox is at South East Ville Platte, where the Wilcox top averages around —9800 and a number of excellent producing horizons are found in the top 500 feet of the Wilcox section.

On the other hand, the last two years have tended to open our eyes to the favorable prospecting territory afforded by the updip portion of the Wilcox trend. In fact it is the opinion of many, influenced greatly by the apparent possibilities of Olla and Fowlerton, that when costs are considered the extreme updip limits of the Wilcox offer the most attractive areas for prospecting.

It is still true, that practically all regional correlations are now made on either the top or the bottom of the Wilcox section, where clear lithological breaks are expected. However, we are now beginning to appreciate the existence of definable zones within the Wilcox section itself. In this work electrical logs and coregraphs are proving of assistance to lithology, paleontology and surface studies. It is very probable that these zones will in the future be worked out with sufficient accuracy to permit regional correlations within the Wilcox section itself.

Developments during the past two years have disproved the pessimistic opinion of some, that only the top part of the Wilcox would prove productive. A prolific oil sand has been found at Olla 640 feet within the Wilcox, and several other sands have shown for production still lower in the section, after the top of it proved barren; at least six oil bearing sands have been logged in the top 500 feet of the Wilcox at South East Ville Platte; and a large number of promising sands have been found throughout the middle and lower Wilcox at Fowlerton. All these developments are promoting interest in the entire Wilcox section, and tend to confirm the previously expressed view that the entire Wilcox section will prove productive, at least in parts of the trend. The finding of these productive possibilities throughout the Wilcox section, will result in wells in the future being carried deeper. In the future wells drilled through the Wilcox will become the rule instead of the rare exception.

It appears to be true that most of the Wilcox structures quit growing about Cockfield time, or very soon thereafter. It is likely that late Cockfield was the era of deformation that resulted in most of the fault and structure forming in the Wilcox trend. For this reason, the opinion is gaining acceptance that surface geology is of little assistance in solving the problems of this area. None of the more recent Wilcox fields can be credited to surface work, and none of the many faults postulated throughout the trend seem to have any surface expression.

During the past two years we have learned that the failure of the many wildcats in the trend, is due to the lack of any closed structure at the point tested. The actual closed structures which exist in the trend and do not produce from the Wilcox are very rare. The great variety of sands within the Wilcox section make it difficult for a structure to fail to trap some oil at some level.

We know that there are a few salt domes within the Wilcox trend. And from the outstanding seismic and gravity anomalies associated with some of the older fields, we suspect that they too are deeply buried salt core structures. However most of the more recent geophysical surveys and the newer subsurface studies indicate that the structures we are now finding are certainly not "domes" in any sense of the word, and it is very doubtful that they are in any way associated with "salt."

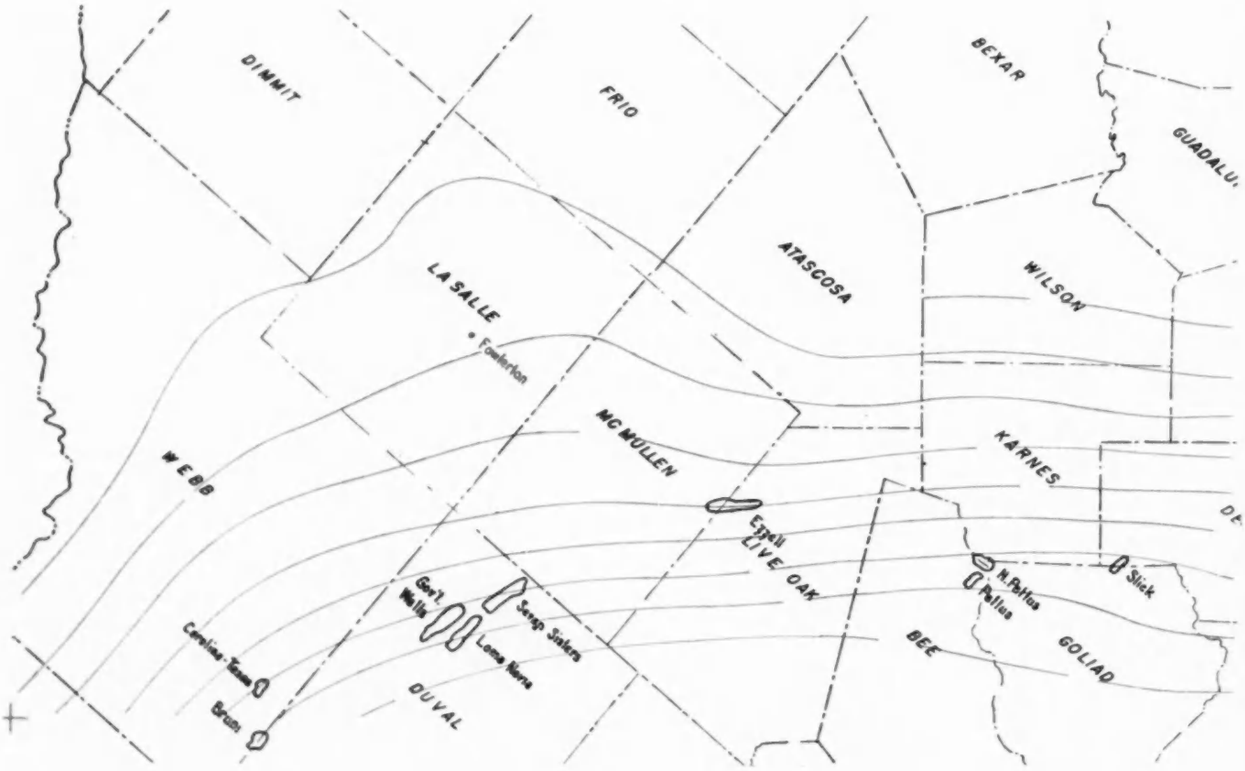
It now appears that instead of isolated salt domes scattered throughout the entire trend, we have instead zones of faulting and lanes of structures extending along strike across entire counties. The exact temporal relationship and mutual effect of these faults and structures we do not yet know, but of their definite existence we feel quite positive.

In any event we are no longer

Surface Correlations of Wilcox in Alabama, Mississippi, Louisiana, and Texas*

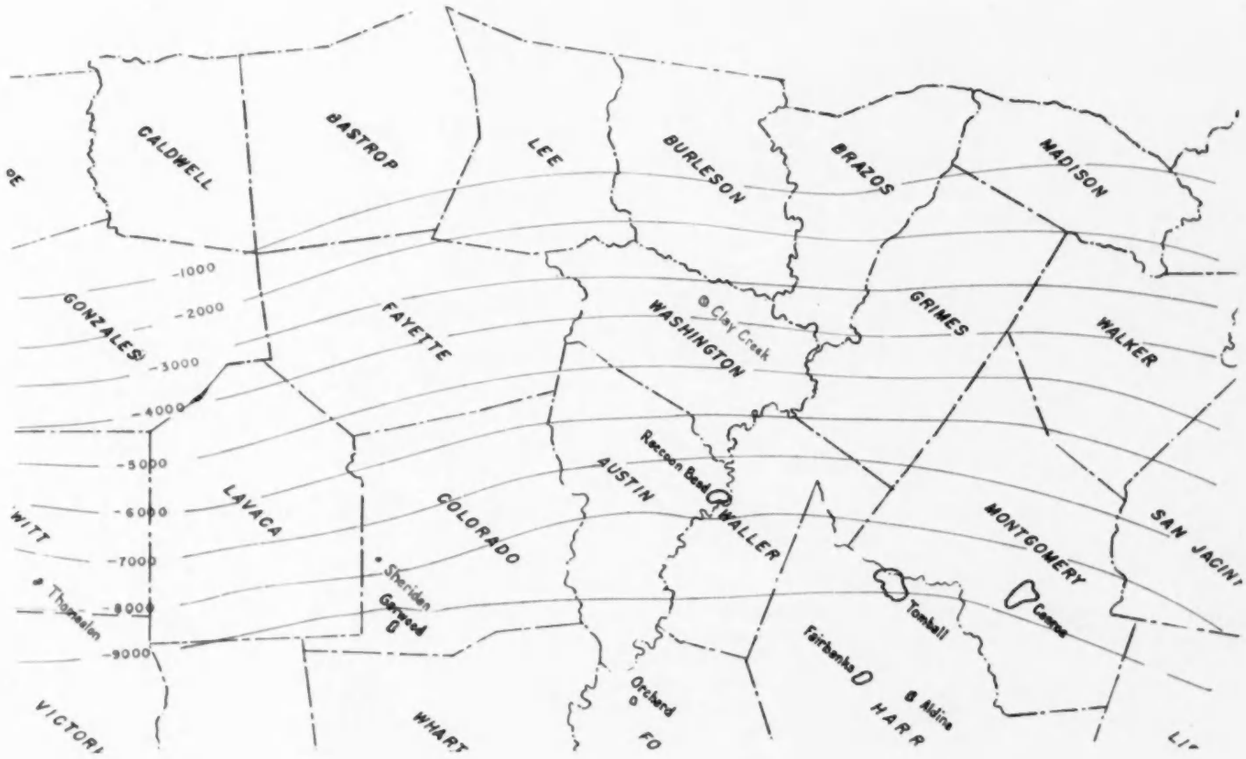
WEST TEXAS (a)	EAST & CENTRAL TEXAS (a, b)		LOUISIANA (b)			WEST MISSISSIPPI (c, d)	EAST MISSISSIPPI	ALABAMA (d, e, f)
REKLAW	REKLAW		CANE RIVER			TALLAHATTA		TALLAHATTA
CARRIZO	CARRIZO		?			GRENADA	MERIDIAN SAND	?
INDIO	Sabinetown					UPPER ? WILCOX		
		Sabinetown Outcrop		Wilcox Sub group			Hatchetigbee	Hatchetigbee
							Woods Bluff	Bashi
		Pendleton Outcrop	Group		Marthaville & Fort Jessup Outcrop	Holly Springs	Holly Springs	Tuscahoma
								Discocyclina?
						Ackerman	Ackerman	(Salt Mt.) Nanafalia
	Rockdale		Sabine		Mansfield "Subgroup"	TIME BREAK	Tippah Naheola (Transitional)	Naheola (Transitional)
	Seguin		?					
Midway	Midway		Midway			Porters Creek		Midway

* As compiled by Wilcox Study Group of the Houston Geological Society from most recent published sources.



shocked by wierd subsurface pictures, that look like a geologist's nightmare. In fact, we have ceased to doubt and come to accept as normal, interpretations showing acute deformation in unexpected patterns along far-reaching bands. We are coming to believe that there are zones through the trend, that a very large percentage of the productive structures will come from these zones; and that by isolating these structural zones we can greatly delimit the area of search.

Before reviewing the discoveries of the 1939-40 period, some mention of the developments in the



older Wilcox fields is pertinent.

At Urania a sizeable daily production has been maintained, but aside from the routine drilling of a mature field there is no new development.

At Cheneyville the most profitable producing section has turned out to be the Cockfield. There has been no further development of the Sparta section, and it appears that the salt mass has pierced the Wilcox so that production can be expected from it only around the flanks. A number of tests have penetrated the Wilcox on the flanks, but have found it barren.

At Ville Platte a number of Wil-

cox wells have been brought in around the periphery of the Sparta production. At first it appeared that the Wilcox production would simply cover the same area as the Sparta, and somewhat underlap it. However, an important extension of the field has developed on the southeast, carrying production far outside the original block. This South East Ville Platte extension, appears to be a large structural nose where the oil has been trapped by successive up-to-the-south faults. These faults act to bring more and more acreage up above the water level, which is probably different from that on the main structure. It seems likely that an additional 600 to 800 acres has been added to the field, with a possible reserve addition of 25,000,000 barrels.

At Joe's Lake the field has been delimited to the north, but is of unknown extent to the west, southwest and south. Reserve figures are still unobtainable for this field; but it is known that there are four producing sections, and that the oil column is around 160 feet. In excess of forty wells are producing, and only the one dry hole has been drilled since the discovery of the field. Reserves estimated in excess of 100,000,000 barrels appear to be a reasonable guess. To the north of Joe's Lake, the Spurger area has been revived with the recompletion of a dead Cockfield well; this area has some Wilcox possibilities but they are not considered great.

At Segno the Wilcox production has developed into substantial proportions, so that the field is now credited with a Wilcox reserve of around 25,000,000 barrels.

There have been no important developments at Kittrell, except the penetrating of the salt to definitely add it to the list of known salt domes. The proven acreage has remained small at about 120 acres, but the ultimate production appears to be headed for about 2,500,000 barrels.

Of the newer Wilcox strikes by far the most publicized has been Eola. This field has experienced rapid development, so it is now practically drilled up. This field appears to have definitely added in excess of 50,000,000 barrels to Wilcox reserves; in addition to this a possible 3,000,000 barrels of Cockfield reserve is indicated, and a substantial oil-distillate reserve in the Sparta.

By continued extensions the Neale field seems to be rapidly taking its place as one of the prolific Wilcox fields. It appears that there may be some stratigraphic trapping associated with the fault-controlled structure, so that the ultimate productive acreage is hard to estimate. However, from the present production and geophysical data, it appears that this field can be expected to produce 20,000,000 barrels of Wilcox oil.

The Olla field, or perhaps the several fields which the Olla discovery led to, is yet in the development stage. These strikes may be due to stratigraphic trapping against the east flank of a large structure, or they may be independent close structures of very low relief. A very large amount of acreage is already proven, with much more indicated. The completion problems of the area have not yet been solved, so that many of the wells are making water and this has held back recognition of the area's true merit. This area is also noteworthy for the fact that it indicates that production can be expected from well within the Wilcox section. The main producing horizon is 640 feet below the top of the Wilcox, and a number of deeper sands are known to exist. It appears conservative to expect this field to produce as much oil as Urania, so a tentative reserve of 25,000,000 barrels is assigned.

The Wilcox production at Ace has not proven very prolific and seems to have added only 1,000,000 barrels to reserves.

The Sheridan field is only in its first stages of development. The large flat structure in a new area, presents a trap of unknown possibilities. Considering the area in its most pessimistic aspects, it appears to justify an estimate of 1000 productive acres and a reserve of 10,000,000 barrels.

The Thomaston field is another large flat structure in a highly faulted area. The ultimate possibilities of such structures, where all our knowledge of the structure is limited to geophysics, are impossible to surmise. Because of the distillate character of the production to date, a reserve of 2,000,000 barrels seems sufficient for this structure.

The Fowlerton strike in LaSalle County is of great importance, in that it indicates that the entire Wilcox section can be expected to produce, and in that it greatly extends to the southwest the limits of Wilcox production. This discovery is expected to precipitate an intense prospecting of the counties on strike with this structure. This well was drilled in the trend where the top of the Wilcox carries fresh water, so that only the middle and lower part of the Wilcox is a prospective producing section. Oil sands in the Cullen well are indicated on the electrical log at from 4550-65, 4750-80, 4860-80, 5085-5110, 5285-5305, and 5420-50 feet; and a number of these horizons showed oil on tests. The structure appears to be a weak, fault controlled seismic closure. From all the available data a reserve of 5,000,000 barrels can reasonably be expected from this prospect.

In addition to the foregoing actual discoveries within the past two years, a number of other developments have made the news. A well was drilled into the Wilcox at Bancroft at below 9900 feet, and indicated that not much can be expected from the Wilcox on this structure. This was expected because of its depth.

A well was drilled to the Wilcox on the edge of Conroe, and excellent sands were encountered but all carried salt water. This would tentatively indicate that on this high relief structure the Wilcox producing area may be smaller than the Cockfield.

A well has been drilled into the Wilcox at Bruni, but never completed. Indications are that distillate can be expected from this well, if not oil.

A well has been drilled well into the Wilcox at Tomball encountering sands that showed (on electrical log and by core analysis) oil and distillate at the following levels: 8360-70, 8385-8400, 8515-25, 8540-75, 8590-8605, 8620-55, 8665-90, 8725-50, 8780-8810, 8850-90, and 8905-25 feet. While the well was not completed in the Wilcox, there appears no doubt that it could have been. The Wilcox reserves of this field appear destined to far exceed its Cockfield possibilities. From the gassy character of the Wilcox on top of the structure, one might expect the Wilcox producing area to substantially underlap the Cockfield production.

An important test is now drilling at Raccoon Bend that can be expected to indicate Wilcox reserves for this structure so favorably located in the trend.

A recent well drilled at Garwood appears to follow the general rule of finding tight Wilcox sands as the 10,000 level is approached. This decrease in porosity and permeability of the Wilcox as it ap-

Geophysical Activity Report

COUNTY	Gravity		Seismic		Miscellaneous	
	1939	1940	1939	1940	1939	1940
Texas Gulf Coast and South Texas						
Austin	29	7	52	18	..	4
Bee	27	12	23	26	42	5
Brazos	13	..	3	2	..	..
Burleson	5	..	..	..	..	..
Colorado	43	8	102	68	..	..
De Witt	5	21	65	36	19	4
Fayette	48	4	12	6	..	..
Gonzales	..	..	9	..	6	..
Grimes	39	2	62	44	..	3
Hardin	4	..	21	11	2	..
Jasper	18	..	47	10	..	..
Karnes	1	9	..	6	1	6
La Salle	..	1	..	2	..	..
Lavaca	20	4	57	78	42	..
Live Oak	1	4	26	8	9	18
Madison	8	..	..	3	..	..
McMullen	..	..	17	..	2	6
Montgomery	59	..	86	69	..	10
Newton	7	..	29	23	2	..
Polk	24	9	39	13	..	8
San Jacinto	15	..	85	20	15	1
Trinity	10	4	1	1	..	..
Tyler	16	8	46	25	..	20
Walker	71	..	56	12	..	..
Waller	14	6	22	25	..	6
Washington	51	..	33	16	..	..
Webb	..	22	..	14	..	..
Total	526	121	883	536	140	91
South Louisiana						
Allen	16	..	41	21	2	4
Avoyelles	52	..	92	..	11	4
Beauregard	21	..	140	26	22	..
Evangeline	27	..	55	20	3	2
Pt. Coupee	15	1	29	3	1	..
Rapides	34	1	48	27	51	5
Vernon	8	..	56	1	5	2
Total	173	2	461	98	95	17

proaches 10,000 feet accelerates most rapidly—far faster than one would expect such a change to occur.

The Score

A check of those parts of the Wilcox Trend within the Texas and Louisiana Gulf Coast and South Texas districts[2] indicates the following geophysical work that has been completed in 1939 and 1940: 822 crew weeks of gravity work, 1978 crew weeks of seismic work, and 343 crew weeks of other geophysical work. The cost of this geophysical work can be approximated at $5,121,000.

Available statistics indicate that during this same 1939 and 1940 period there were drilled 49 dry wildcats[2] in this same part of the Texas trend and 32 dry wildcats[2] in the Louisiana Wilcox trend. The cost of these dry holes and of the acreage which they condemned can be approximated at $4,050,000.

During the 1939-1940 period the Wilcox trend has added an estimated 113,000,000 barrels of oil to the reserve of the industry. By allowing some kind of a rough estimate for the cost of leases condemned by geophysical surveys, it is possible to approximate the present balance of the trend's accounts with the industry.

The Future

But all the value to the industry of these geophysics and dry holes, is not expressed in the millions of barrels of oil thus far added to its reserves. We have learned much that will be of assistance to us in the future, and which should lower the finding-cost-per-barrel in this trend.

It now seems apparent that in most parts of the trend, the ability to find structures is dependent upon the ability to find the faults with which they are associated. In most cases these structures will be rather flat, and placed in very complicated structural situations. We know that as little as 50 feet of closure will result in a first class oil field; and it is probably true that as little as 10 feet of closure will result in a profitable field. So that it seems that the real limit to structure finding in the trend, is the limits of accuracy of the seismograph; and when adequate time is permitted the seismologist it is surprising what accurate work can be done.

The problem of finding faults and the associated structures, is particularly difficult in the Wilcox trend because of two facts: (1) the character of the reflections in much of the trend is such as to make correlations difficult if not questionable and (2) the character of the faults in the Wilcox trend is such as to make them particularly hard to define. The faults in the Wilcox do not seem to express themselves as clear breaks, that give jumps between points a few hundred feet apart, such as we have in other places; but rather they seem to be zones of shearing spread over several thousand feet, and characterized by muddled records through which it is difficult to trace any correlation.

The solution of this problem, and the only solution so far apparent, seems to be first class seismic work and lots of it, so concentrated on the area under consideration as to not only detail it but also to detail all its surroundings. That this is the true solution seems to be borne out by the fact that the companies which have experienced greatest success in the trend are those which have been content to put crews in the trend and to leave them there, permitting them to detail a regional picture of entire counties at a time.

Such detailed seismic studies serve to locate the lanes or zones of faults along strike, from which we can expect our oil fields. They tend to eliminate the more normal areas up and down dip from these structural zones. From these zones many structures, and perhaps nests of structures will no doubt be worked out. In the coastal belt of salt domes, where structures are expected to have peripheral synclines, we expect to find structures miles apart; however, in the Wilcox trend it seems more reasonable to expect structures to be more close spaced and to be well aligned.

The ability to find faults with a seismograph is a rather recent development, that is still progressing. It is certain that we are better prepared now to find such structures than ever before, and it is reasonable to expect we will become even better prepared in the future. It appears probable that there are many structures similar to those already located, and those who will be rewarded most are those who work a small area closely rather than try to stretch over a large area. It seems certain that the entire Wilcox section will prove productive, and with so many sands in the Wilcox every test well has its chance to tap a stratigraphic trap whether located on a structure or not.

The Wilcox trend seems destined to continue to be an area into which the industry may safely invest a part of its exploration budget, and from which it can confidently expect annual profitable additions to its reserves, for years to come.

[2] Figures from commercial reports.

New Fields and Sands Discovered in Texas Gulf Coast First 8 Months, 1940

County and Field	COMPANY AND WELL	Producing Formation	Depth (Feet)	Tubing Pressure (Pounds)	Initial Production (Barrels)	Choke Size (Inches)	Gravity
Brazoria:							
*Rowan	Rowan & Nichols, Hubbard 1	Frio	8538–54	1,550	187	1/4	40
Chambers:							
Fig Ridge	Sun Oil Co., Smith 1	Frio	8849–53	3,200	80	1/4	37
*Red Fish Reef	Humble Oil & Ref. Co., State 1-A-247	Frio	8814–16	.....	24	1/8	43
Galveston:							
Alta Loma	Stanolind Oil & Gas Co., Hulen 1	Frio	9166	‡	10,000	1	36
Harris:							
†Mt. Houston	Jack Frazier, Griffith 4	Miocene	3482–85	600	†1.25	1/4	..
*Ogburn	Richardson, Christian-Carpenter Dr. Co., Marks 1	Claiborne	6918–26	1,200	108	11/64	58
Matagorda:							
*Blessing	The Texas Co., Pierce 1	Frio	8290–8300	2,800	40	1/8	56
Tyler:							
Spurger	Republic Prod. Co., Sterne 1	Cockfield	4685–704	.....	400	1/4	..
Wharton:							
*Borden Abel	J. F. Hutchins, Borden 2	Frio	4758–71	1,900	18	1/4	48
*East Bernard	H. C. Cockburn, Leveridge 1	Claiborne	8074–89	3,300	20	1/8	56
†Lissie	Gulfboard Oil Corp., Poole 1	Vegua	6728–34	2,000	†1.85	1/32	..

New Pay Horizons Found

Brazoria:							
Angleton	Glenn McCarthy, Salmon 1	Frio	9820–24	2,200	200	1/4	53
Old Ocean	Sun Oil Co., Borsodi 4	Oligocene	9364–76	3,100	68	1/16	..
Galveston:							
Green's Lake	Sun Oil Co., Houston Farms 4	Miocene	6445–55	2,300	311	1/4	38
Jefferson:							
Fannett	Gulf Oil Corp., Bordages 2	Oligocene	8275–85	1,500	845	1/4	36
Liberty:							
Esperson	General Crude Oil Co., Fee 9-B	Claiborne	8314	§	§	§	§
Wharton:							
Pickett Ridge	The Texas Co., Pierce Estate A-20	Frio	4777–93	500	103	1/16	35

* Distillate field. † Gas field. ‡ Flowing under partial control. § Blowout and fire junked hole.

New Fields and Pays Discovered in South Louisiana First 8 Months, 1940

Parish and Field	COMPANY AND WELL	Producing Formation	Depth (Feet)	Tubing Pressure (Pounds)	Initial Production (Barrels)	Choke Size (Inches)	Gravity
Acadia:							
East Tepetate	Vincent & Welsh, McManus 1	Miocene	3528–33	1,350	30	1/8	25
South Crowley	Humble Oil & Ref. Co., Leger 1	Miocene	7602–12	1,200	779	1/4	36
Beauregard:							
Neale	Atlantic Ref. Co., Whitmar 1	Wilcox	8357–69	800	216	1/4	36
Cameron:							
Petit Chenier	Phillips Pet. Co., Miami Dev. Co. 1	Miocene	10194–200	4,300	75	1/4	96
Iberia:							
Bayou Pigeon	Plymouth Oil Co., McHugh Heirs 1	Miocene	8052–72	800	96	1/4	35
Iberville:							
Bayou Des Glaise	Humble Oil & Ref. Co., Wilberts 2-B	Oligocene	8650–60	1,400	345	1/4	..
Jefferson Davis:							
West Mermenfao	H. M. Naylor Oil Co., Acadia Dev. Co. 1	Heterostegina	920–35	3,450	44	1/4	40
La Fourche:							
Bayou Perot	Tide Water Associated Oil Co., Delta Farms 1	Miocene	11290–305	1,100	484	1/32	32
Plaquemines:							
Stella (Belle Chasse)	The California Co., Delta Minerals 1, Ls. 5	Miocene	7485–90	1,100	490	1/4	41
St. Mary:							
West Cote Blanche	The Texas Co., State 1	Miocene	3109–36	.....	25	11/64	23
Vermilion:							
Erath	The Texas Co., Vermilion P. School 1	Oligocene	11388	3,510	70	1/2	40
Schooner Bayou	Union Oil of Calif., White Heirs 1	Oligocene	10536–542	3,000	230	1/4	32

New Pay Horizons Found

Avoyelles:							
Eola	Sid Richardson, Glaze 9	Cockfield	6430–46	550	230	1/16	35
Beauregard:							
Bancroft	Republic Production Co., Lutcher Moore 11	Claiborne	7480–88	.....	50	..	38
Cameron:							
Grand Lake	Superior Oil Co., State 7	Miocene	8202–05	2,500	273	1/8	34
Hackberry	Superior Oil Co., Vincent 2	Oligocene	8088–148	.....	305	1/4	42
Hackberry	Stanolind Oil & Gas Co., School Board 21-A	Oligocene	8290–315	.....	297	1/32	29
Evangeline:							
Ville Platte	Danciger Oil & Ref. Co., Vidrine 1	Wilcox	10133–164	2,200	336	1/4	43
Iberia:							
Fausse Point	Sun Oil Co., Kling & Walet 1	Miocene	1105–50	90	62	1/2	24
New Iberia	The Texas Co., Schwing 1	Miocene	7730–45	900	210	1/32	33
Iberville:							
Choctaw	Standard of Louisiana, Marley-Cypress 2	Miocene	8470–80	.....	192	1/32	..
Jefferson:							
Barataria	The California Co., Fleming 1*	Miocene	7600	†	192	1/8	36
Barataria	Carter-Perrin-Brian, Rutley-Wiseman 2	Miocene	8765–80	1,280	24	1/4	37
Lafitte	The Texas Co., L. L. & E. 15*	Miocene	4805–10	.....	210	1/8	..
Jefferson Davis:							
Iowa	Magnolia Pet. Co., Wait 9	Oligocene	8204–39	.....	1,560	1/8	34
La Fourche:							
Golden Meadows	The Texas Co., La Terre 3	Miocene	10365–388	2,100	1,028	1/4	38
La Fourche Crossing	Mikton Oil Co., Martinez 2	Miocene	10015–025	.....	100	1/8	52
Plaquemines:							
Grand Bay	Gulf Ref. Corp., GPLD 2-A	Miocene	9350–64	1,800	760	1/4	38
Venice	Tide Water Associated Oil Co., Manhattan Fruit Co. 11	Miocene	7670–706	1,175	224	1/8	32
St. James:							
La Pice	Shell Oil Co., L&I 1	Heterostegina	11340–355	4,700	52	1/16	49
St. John the Baptist:							
La Place	Pan-American Prod. Co., Godehaux 1	Miocene	8890–900	3,275	150	1/32	56
St. Martin:							
Anse La Butte	Glassell & Glassell, Broadux 1	Miocene	4630–50	675	125	1/8	..
St. Mary:							
Jeanerette	Horton Oil Co., Branta 10	Miocene	10373	.....	700	1/4	..
West Cote Blanche	The Texas Co., State 2	Miocene	4997–5019	.....	235	1/32	29
Terrebonne:							
Bay St. Elaine	The Texas Co., State B-4	Miocene	7635–755	2,100	260	1/32	33

* Later completed at lower level. † Drill stem test.

Gulf Coast Looms Larger in National Oil Picture

[*Continued from page 40*]

passed in a little over a year, is Spindle Top, first and best-known of the fields of the region. Originally spectacular, Spindle Top, at Beaumont, is 40 years old and has produced 125,000,000 barrels. And still ranking second is another old-timer, Humble, in Harris County, Texas, which has produced 123,000,000 barrels since 1905. The only other Gulf Coast field with more than 100,000,000 barrels of recorded production is Conroe, with its 112,000,000 barrels. Big and only 9 years old, Conroe is due to pass Humble and Spindle Top within somewhat more than a year and then to rank indefinitely as the No. 1 coastal field in cumulative production. Conroe is not only the richest field on the Gulf Coast, measured in ultimate production, but also the second best in Texas and one of the half dozen or so best in the United States, ranking after East Texas, Greater Seminole, Kettleman Hills, Midway-Sunset, Long Beach, and possibly a few other fields.

The yearly yield of crude oil in the Gulf Coast has risen sharply, despite stringent proration in recent years, and indications are that it will continue to do so.

In 1933 the annual yield of the Texas-Louisiana coastal region was 72,166,941 barrels. It has attained higher levels each succeeding year, producing 146,563,303 barrels in 1939 or twice as much as in 1933. Production rates during the first half of 1940 indicate a very substantial gain over 1939, as 79,075,567 barrels were recovered.

The Texas Gulf Coast produced 56,811,890 barrels in 1933, dropped to 53,508,314 barrels in 1934 and since that time has steadily gained in volume. In 1939, this region accounted for an output of 78,293,221 barrels. The increase in the Louisiana sector has been more spectacular. From a mere recovery of 15,355,051 barrels in 1933, it has climbed to a position equal to that of the Texas portion of the coastal belt. During 1939, wells in the Louisiana Coast produced 68,270,982 barrels, and its rate of output during the first half of 1940 indicates its annual yield will be 75,000,000 barrels this year.

High Discovery Rate

Even with such a history of successful development there is yet no indication that possibilities are near exhaustion. In 1938, 29 new fields, 60 new productive strata found in old fields, and numerous important extensions added 425,000,000, barrels to reserves. In 1939, 24 new fields, 68 new pro-

Texas Gulf Coast Crude Oil Production, by Fields, by Years

Complete Production History of District, in Barrels of 42 U. S. Gallons

(Sources: Except as otherwise indicated in footnotes, figures are from annual volumes of *Mineral Resources* and *Minerals Yearbook*.)

YEAR	Ace Polk County	Aldine Harris County	Allen Dome Brazoria County	Amelia Jefferson County	Anahuac Chambers County	Angleton Brazoria County	Ariola Hardin County	Armour Matagorda County	Bammel Harris County	Barbers Hill Chambers County	Batson Hardin County	Bay City Matagorda County	Big Creek Fort Bend County
1893-1900													
1901													
1902													
1903											4,518		
1904											10,904,737		
1905											3,774,841		
1906											2,289,507		
1907											2,164,453		
1908											1,593,570		
1909											1,206,214		
1910											1,113,767		
1911											1,023,493		
1912											844,563		
1913											741,350		
1914											775,804		
1915											703,686		
1916										[A]	744,915		
1917											692,417		
1918										[1]20,000	634,736		
1919										[1]169,415	560,000		
1920										[1]136,367	527,000		
1921										[1]49,885	495,000		
1922										[1]236,185	434,000		3,700
1923										[1]172,660	403,000		[1]17,545
1924										[1]72,437	464,000		293,000
1925										[1]46,712	432,000		310,000
1926										[1]146,312	456,000		520,000
1927			[G]2,922							[T]68,575	462,000		1,243,000
1928			[G]17,457							[T]322,950	550,000		811,000
1929			[G]5,473							4,552,000	444,000		1,496,000
1930			[G]26,385							7,441,000	418,000		1,390,000
1931			[G]11,410							7,651,000	330,000		858,000
1932			[G]5,079				[G]7,630			7,320,000	268,000		425,000
1933			[G]3,044				[G]191,219			8,082,000	208,000		413,000
1934	[G]5,900		[G]4,336				446,000			6,820,000	246,000		365,000
1935	[G]21,672		[G]3,721		358,000		404,000			6,765,000	588,000		362,000
1936	[G]28,000		[G]3,000	201,000	2,606,000		390,000			5,461,000	638,000	40,000	394,000
1937	[G]44,000	[G]7,000	[G]4,000	[G]1,165,000	4,318,000		[G]214,000			4,366,000	630,000	[G]150,000	[G]379,000
1938[G]	22,350	20,493	2,566	1,290,642	2,384,906		166,555	42,586		3,442,554	615,120	548,190	228,023
1939[G]	82,931	16,292	1,139	951,292	2,613,608	17,203	80,619	50,290	117,389	3,160,311	614,127	912,070	176,487
1940[G]—(6 months)	72,055	9,736	259	535,874	396,978	98,441	49,892	13,552	17,104	614,148	227,644	539,865	64,523
Total	276,908	53,521	90,791	4,143,808	13,177,492	115,644	1,949,915	106,428	134,493	67,116,511	39,222,462	2,190,125	9,749,348

See footnotes on page 68.

Texas Gulf Coast Crude Oil Production, by Fields, by Years (Continued)

YEAR	Big Hill Matagorda-Jefferson Counties	Blue Ridge Fort Bend County	Boling Wharton-Fort Bend Counties	Borden Abel Wharton County	Brenham Washington County	Brookshire (San Felipe) Waller County	Buckeye-Wilson Creek Matagorda County	Buttermilk Slough Matagorda County	Call Newton County	Caplan Galveston County	Cedar Bayou Chambers County	Cedar Point Chambers County	Cheek, North Jefferson County	Chocolate Bayou Brazoria County	Clam Lake Jefferson County
1893-1900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1901	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1902	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1903	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1904	151,936	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1905	46,471	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1906	3,600	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1907	1,573	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1908	B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1909	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1910	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1911	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1912	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1913	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1915	.....	.....	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1916	.....	.....	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1917	.....	.....	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1918	.....	.....	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1919	.....	[1]24,910	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1920	.....	92,000	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1921	.....	326,000	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1922	.....	349,000	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1923	[1]13,853	287,000	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1924	[1]3,258	278,000	.....	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1925	.....	313,000	40,000	.....	A	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1926	.....	486,000	1,175,000	.....	[G,N]15,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1927	.....	1,210,000	753,000	.....	[G]12,500	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1928	.....	2,205,000	814,000	.....	[G]47,330	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1929	.....	1,194,000	580,000	.....	[G]76,246	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1930	.....	644,000	378,000	.....	[G]52,606	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1931	.....	378,000	269,000	.....	[G]33,111	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1932	.....	328,000	188,000	.....	[G]20,461	.....	105,000	.....	.....	.....	.....	.....	.....	.....	.....
1933	.....	295,000	126,000	.....	[G]11,849	.....	272,000	.....	.....	.....	.....	.....	.....	.....	.....
1934	.....	299,000	209,000	.....	[G]11,684	[G]4,635	75,000	.....	.....	.....	.....	.....	.....	.....	.....
1935	.....	335,000	182,000	.....	[G]8,488	[G]8,664	72,000	.....	.....	.....	.....	.....	.....	.....	.....
1936	.....	521,000	348,000	.....	[G]8,000	[G]3,000	76,000	.....	.....	.....	.....	.....	.....	.....	.....
1937	.....	[G]347,000	545,000	.....	[G]8,000	[G]2,000	[G]71,000	.....	[G]6,000	.....	.....	.....	27,000	.....	1,000
1938[G]	.....	247,925	543,199	.....	8,997	1,896	69,391	.....	5,409	.....	680	110,387	39,287	.....	34,587
1939[G]	.....	279,762	554,122	.....	9,712	1,057	50,922	3,028	6	44,310	.....	274,390	5,355	2,405	53,983
1940[G] (6 mos.)	.....	142,961	241,717	4,761	3,799	382	25,414	2,446	.....	54,052	4,979	238,555	.....	10,800	27,657
Total	220,691	10,582,558	6,946,038	4,761	327,783	21,634	816,727	5,474	11,415	98,362	5,659	623,332	71,642	13,205	117,227

YEAR	Clay Creek Washington County	Clear Lake Harris County	Cleveland Liberty County	Clinton Harris County	Conroe Montgomery County	Cotton Lake Chambers County	Damon Mound Brazoria County	Danbury Brazoria County	Dickinson Galveston County	Esperson Dome Liberty County	Eureka Heights Harris County	Fairbanks Harris County	Fannett Jefferson County	Fig Ridge Chambers County
1911	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1912	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1913	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1915	.....	.....	.....	.....	.....	.....	A	.....	.....	.....	.....	.....	.....	.....
1916	.....	.....	.....	.....	.....	.....	A	.....	.....	.....	.....	.....	.....	.....
1917	.....	.....	.....	.....	.....	.....	[E]124,325	.....	.....	.....	.....	.....	.....	.....
1918	.....	.....	.....	.....	.....	.....	[E]283,527	.....	.....	.....	.....	.....	.....	.....
1919	.....	.....	.....	.....	.....	.....	191,000	.....	.....	.....	.....	.....	.....	.....
1920	.....	.....	.....	.....	.....	.....	379,000	.....	.....	.....	.....	.....	.....	.....
1921	.....	.....	.....	.....	.....	.....	666,000	.....	.....	.....	.....	.....	.....	.....
1922	.....	.....	.....	.....	.....	.....	754,000	.....	.....	.....	.....	.....	.....	.....
1923	.....	.....	.....	.....	.....	.....	628,000	.....	.....	.....	.....	.....	.....	.....
1924	.....	.....	.....	.....	.....	.....	520,000	.....	.....	.....	.....	.....	.....	.....
1925	.....	.....	.....	.....	.....	.....	416,000	.....	.....	.....	.....	.....	.....	.....
1926	.....	.....	.....	.....	.....	.....	341,000	.....	.....	.....	.....	.....	.....	.....
1927	.....	.....	.....	.....	.....	.....	312,000	.....	.....	.....	.....	.....	A	.....
1928	[G]5,607	.....	.....	.....	.....	.....	291,000	.....	.....	.....	.....	.....	[G]3,800	.....
1929	[G]607,006	.....	.....	.....	.....	.....	224,000	.....	.....	[G]48,460	.....	.....	292,000	.....
1930	619,187	.....	.....	.....	.....	.....	224,000	.....	.....	819,000	.....	.....	350,000	.....
1931	553,000	.....	.....	.....	[G]1,000	.....	282,000	.....	.....	712,000	.....	.....	180,000	.....
1932	356,000	.....	.....	.....	2,630,000	.....	219,000	.....	.....	509,000	.....	.....	151,000	.....
1933	334,000	.....	[G]1,300	.....	21,215,000	.....	[G]260,519	.....	.....	481,000	.....	.....	146,000	.....
1934	266,000	.....	172,000	.....	17,761,000	.....	113,000	[G]3,612	[G]6,903	452,000	.....	.....	195,000	.....
1935	361,000	.....	228,000	.....	15,276,000	.....	193,000	.....	280,000	395,000	[G]4,622	.....	237,000	.....
1936	395,000	.....	304,000	.....	15,229,000	[G]37,000	167,000	.....	719,000	630,000	[G]6,000	.....	328,000	.....
1937	[G]312,000	.....	208,000	.....	15,191,000	[G]366,000	[G]135,000	[G]7,000	1,432,000	601,000	[G]24,000	.....	[G]289,000	.....
1938[G]	191,710	41,641	143,603	.....	11,385,598	519,203	112,058	115,155	2,624,354	459,753	283,955	850,434	202,059	.....
1939[G]	168,904	138,535	110,154	82,903	9,311,237	608,794	96,000	155,719	3,599,422	530,050	1,052,947	2,636,613	148,852	.....
1940[G] (6 months)	71,600	190,739	37,836	27,291	4,515,094	342,956	50,068	54,706	1,706,882	360,721	496,919	1,327,913	63,290	530
Total	4,241,014	370,915	1,204,893	110,194	112,514,929	1,873,953	6,981,497	336,192	10,369,061	5,997,984	1,868,443	4,814,960	2,586,001	530

See footnotes on page 58.

Texas Gulf Coast Crude Oil Production, by Fields, by Years (Continued)

YEAR	Friendswood Harris County	Garwood Colorado County	Goose Creek Harris County	Green's Bayou Harris County	Green Lake Galveston County	Hankamer Liberty County	Hardin Liberty County	Hastings Brazoria County	Hawkinsville Matagorda County	High Island Galveston County	Hillje Wharton County	Hitchcock Galveston County	Heckley Harris County	Hoskins Mound Brazoria County
1906	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	76,991
1907	.....	.....	[A]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,694
1908	.....	.....	[K]15,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[G]11,500
1909	.....	.....	[A]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[A]
1910	.....	.....	[A]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[A]
1911	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[A]
1912	.....	.....	43,898	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1913	.....	.....	249,641	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1914	.....	.....	134,748	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1915	.....	.....	119,336	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1916	.....	.....	397,391	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1917	.....	.....	7,300,279	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1918	.....	.....	[F]8,923,635	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1919	.....	.....	[F]5,600,585	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1920	.....	.....	[F]4,339,625	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1921	.....	.....	[F]4,590,115	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1922	.....	.....	[F]4,529,815	.....	.....	.....	.....	.....	.....	[G]2,700	.....	.....	.....	.....
1923	.....	.....	[F]5,853,340	.....	.....	.....	.....	.....	.....	[I]19,018	.....	.....	[A]	.....
1924	.....	.....	[F]3,894,563	.....	.....	.....	.....	.....	.....	[I]19,141	.....	.....	16,614	.....
1925	.....	.....	[F]3,417,288	.....	.....	.....	.....	.....	.....	121,000	.....	.....	.....	.....
1926	.....	.....	[F]3,354,688	.....	.....	.....	.....	.....	.....	60,000	.....	.....	.....	.....
1927	.....	.....	[F]3,033,425	.....	.....	.....	.....	.....	.....	96,000	.....	.....	.....	.....
1928	.....	.....	[F]2,403,050	.....	.....	.....	.....	.....	.....	163,000	.....	.....	.....	.....
1929	.....	.....	2,154,000	.....	.....	[G]18,122	.....	.....	.....	449,000	.....	.....	.....	.....
1930	.....	.....	1,690,000	.....	.....	546,000	.....	.....	.....	331,000	.....	.....	.....	.....
1931	.....	.....	1,460,000	.....	.....	798,000	.....	.....	.....	255,000	.....	.....	.....	.....
1932	.....	.....	1,232,000	.....	.....	691,000	.....	.....	.....	1,547,000	.....	.....	[G]938	.....
1933	.....	2,024	1,163,000	.....	.....	547,000	.....	.....	.....	2,534,000	.....	.....	[G]13,128	.....
1934	.....	.....	1,203,000	.....	.....	378,000	.....	[G]729	.....	2,747,000	.....	.....	[G]2,385	.....
1935	.....	.....	1,069,000	.....	.....	565,000	[G]53,782	689,000	.....	2,513,000	.....	.....	.....	.....
1936	.....	.....	1,038,000	[G]3,000	[G]20,000	779,000	[G]133,000	2,408,000	2,000	2,069,000	.....	.....	.....	.....
1937	88,000	.....	860,000	[G]5,000	[G]9,000	576,000	241,000	5,835,000	.....	1,183,000	.....	[G]18,000	.....	.....
1938[G]	1,076,741	242	583,356	91,969	6,183	445,862	1,622,526	6,885,916	.....	896,511	.....	170,479	.....	.....
1939[G]	2,139,893	3,497	623,520	.....	3,211	368,797	2,178,061	6,356,640	.....	867,444	2,739	329,110	.....	.....
1940[G] (6 mos.)	1,556,148	253	283,939	.....	4,159	152,909	900,820	2,896,974	.....	459,442	12,844	118,462	.....	.....
Total	4,860,782	6,016	71,560,237	99,969	42,553	5,865,690	5,129,189	25,072,259	2,000	16,332,256	15,583	636,051	23,065	100,185

YEAR	Hull Liberty County	Humble Harris County	Katy Waller County	La Belle Jefferson County	League City Galveston County	Livingston Polk County	Lockridge Brazoria County	Lost Lake Chambers County	Louise Wharton County	Lovell's Lake Jefferson County	Magnet Wharton County	Manvel Brazoria County	Markham Matagorda County	Martha Liberty County
1902	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1903	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1904	.....	[A. M]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1905	.....	15,594,310	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1906	.....	3,571,445	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1907	.....	2,929,640	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1908	.....	3,778,521	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	[B]62,640	.....
1909	.....	3,237,060	.....	.....	.....	.....	...	.....	.....	.....	.....	.....	29,103	.....
1910	.....	2,495,511	.....	.....	.....	.....	..	.....	.....	.....	.....	.....	455,999	.....
1911	.....	2,426,220	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	561,828	.....
1912	.....	1,829,923	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	613,292	.....
1913	.....	1,504,880	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	294,553	.....
1914	.....	2,799,458	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	164,192	.....
1915	.....	11,061,802	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	137,841	.....
1916	.....	10,925,805	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	153,338	.....
1917	.....	7,389,831	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	128,011	.....
1918	244,887	6,555,173	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	64,616	.....
1919	1,273,000	3,706,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	54,000	.....
1920	3,909,000	3,607,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57,000	.....
1921	8,150,000	3,004,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	49,000	.....
1922	6,546,000	2,284,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35,000	.....
1923	7,300,000	2,275,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21,000	.....
1924	7,074,000	2,224,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	66,000	.....
1925	6,944,000	1,864,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	41,000	.....
1926	7,058,000	1,568,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	51,000	.....
1927	5,685,000	1,485,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	109,000	.....
1928	4,055,000	1,242,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	112,000	.....
1929	3,376,000	2,990,000	.....	.....	.....	.....	.....	99,000	.....	.....	.....	.....	133,000	.....
1930	3,128,000	5,859,000	.....	.....	.....	[H]	.....	209,000	.....	.....	.....	.....	98,000	.....
1931	2,264,000	3,022,000	.....	.....	.....	[H]	.....	96,000	.....	.....	.....	[G]75,307	218,000	.....
1932	1,891,000	2,144,000	.....	.....	.....	[G]392	.....	127,000	.....	.....	.....	160,000	516,000	.....
1933	1,946,000	1,722,000	.....	.....	.....	435,000	.....	84,000	[G]5,913	.....	.....	586,000	351,000	.....
1934	3,453,000	1,188,000	.....	.....	.....	744,000	.....	67,000	178,000	.....	.....	1,020,000	389,000	.....
1935	2,311,000	1,230,000	.....	.....	.....	1,057,000	.....	84,000	409,000	.....	.....	2,467,000	459,000	.....
1936	1,950,000	1,163,000	.....	.....	.....	1,111,000	.....	65,000	532,000	.....	[G]3,000	3,014,000	540,000	.....
1937	2,492,000	1,217,000	.....	[G]15,000	.....	[G]986,000	[G]279,000	[G]52,000	[G]609,000	.....	[G]126,000	3,458,000	612,000	.....
1938[G]	2,929,681	1,253,273	6,350	228,781	7,633	689,474	579,718	42,292	472,711	54,017	321,285	3,238,193	603,244	.....
1939[G]	2,099,738	1,041,405	74,114	130,600	379,267	560,655	843,193	34,515	452,717	244,096	380,716	2,714,903	597,064	27,299
1940[G] (6 mos.)	940,341	514,127	.....	6,439	408,966	319,486	451,607	15,242	168,421	401,958	253,177	1,431,258	181,073	42,124
Total	87,019,647	122,702,384	80,464	380,820	795,866	5,903,007	2,153,518	975,049	2,827,762	700,071	1,084,178	18,164,661	7,962,794	69,423

See footnotes on page 68.

Texas Gulf Coast Crude Oil Production, by Fields, by Years (Continued)

YEAR	Moss Bluff Liberty County	Mykawa Harris County	Nash Fort Bend County	Nome Jefferson County	North Dayton Liberty County	North Markham Matagorda County	Old Ocean Brazoria County	Orange Orange County	Orchard Fort Bend County	Palacios Matagorda County	Pickett's Ridge Wharton County	Pierce Junction Harris County	Pledger Brazoria County	Port Neches Orange County
1904														
1905					60,294									
1906					92,850									
1907					108,038									
1908					39,901									
1909					17,647									
1910					9,582									
1911					4,344									
1912					12,151									
1913					13,329			17,706						
1914					18,791			43,208						
1915					10,378			21,697						
1916					8,571			17,758						
1917					9,995			7,023						
1918					8,526									
1919					8,000			[4]4,400						
1920					17,000			[4]4,000						
1921					40,000			470,000				1,239,000		
1922					29,000			5,345,000				1,020,000		
1923					35,000			4,649,000				313,000		
1924					36,000			3,958,000				154,000		
1925					20,000			4,816,000				265,000		
1926			207,000		[G]25,700			3,458,000	75,000			948,000		
1927			395,000		[G]57,579			1,803,000	22,000			2,954,000		
1928			491,000		[T]210,000			1,415,000	44,000			3,899,000		
1929		[G]1,446	193,000		214,000			1,006,000	44,000			5,160,000		242,000
1930	[G]12,254	[G]24,006	110,000		406,000			790,000	636,000			3,847,000		672,000
1931	154,000	[G]59,249	187,000		202,000			618,000	495,000			2,831,000		503,000
1932	38,000	[G]101,104	55,000		100,000			451,000	496,000			1,763,000	[G]500	553,000
1933	[G]6,011	[G]98,199	[G]30,048		55,000			312,000	413,000			1,524,000	[G]15,906	383,000
1934		133,000	16,000		74,000		[G]17,568	289,000	457,000			1,196,000	[G]1,100	557,000
1935		705,000	13,000		62,000		[G]104,227	263,000	238,000		[G]48,786	1,093,000	[G]82	593,000
1936		1,161,000	[G]16,000	[G]56,000	45,000		[G]160,000	250,000	205,000		667,000	1,298,000		556,000
1937		632,000	[G]11,000	[G]585,000	[G]40,000		447,000	248,000	[G]179,000	[G]31,000	[G]703,000	1,243,000		[G]447,000
1938[GG]		490,142	811	497,181	34,795	13,241	1,781,253	196,819	174,428	61,496	587,908	1,134,031		413,018
1939[G]		374,369		385,433	27,662	31,452	3,325,082	177,552	171,637	23,170	596,105	892,638		329,646
1940[G] (6 mos.)		164,365		142,189	6,206	16,793	2,108,835	90,640	35,057	6,431	340,044	336,724		175,091
Total	210,265	3,943,880	1,724,859	1,665,803	2,159,339	61,486	7,943,965	30,721,803	3,685,122	122,097	2,942,843	33,110,393	17,588	5,423,755

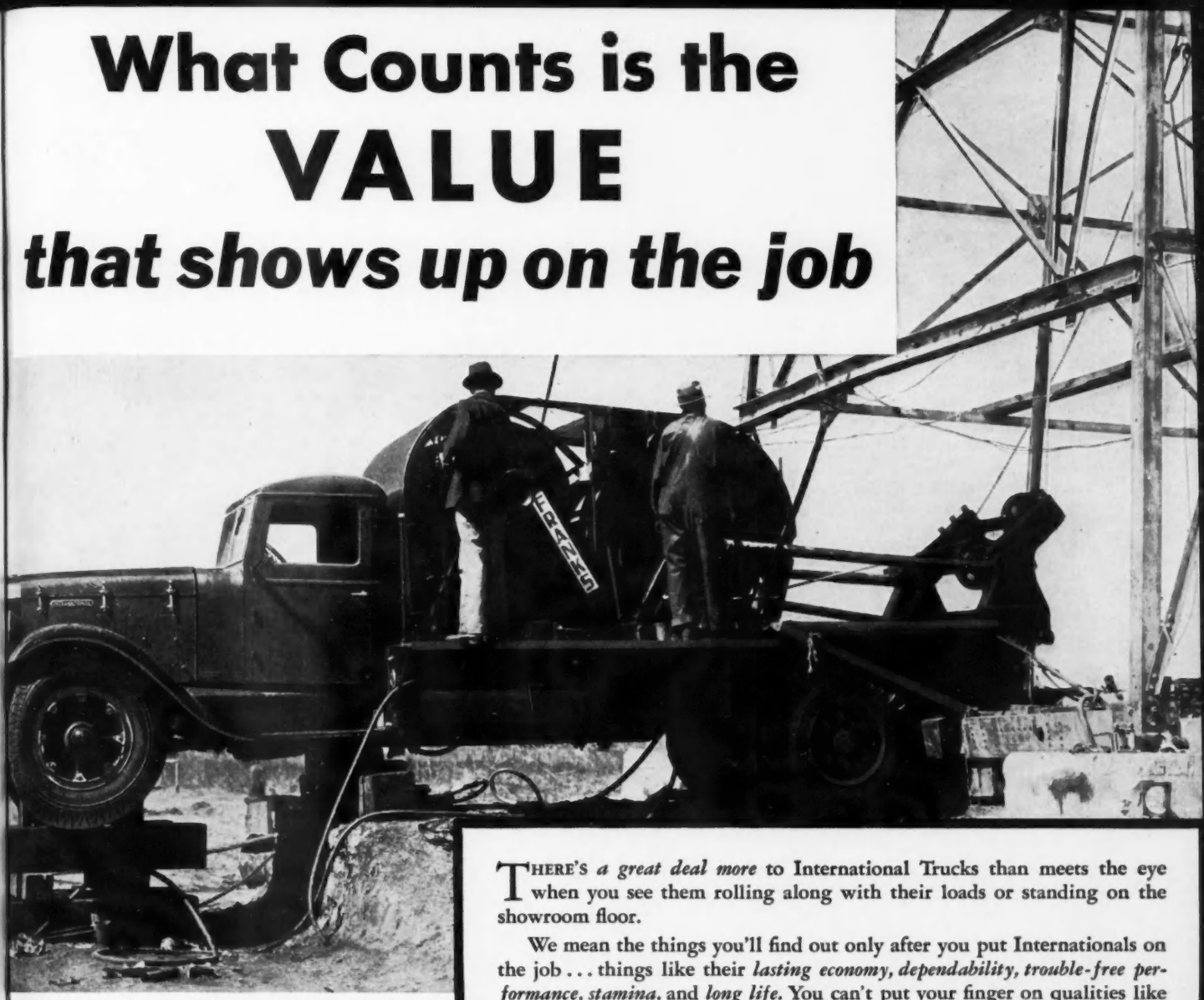
YEAR	Raccoon Bend Shallow Austin-Waller Counties	Raccoon Bend Deep Austin-Waller Counties	Rockland Jasper County	Rosenberg Fort Bend County	Sandy Point Brazoria County	Saratoga Hardin County	Satsuma Harris County	Seabreeze Chambers County	Segno Deep Polk County	Sengo Shallow Polk County	Silsbee Hardin County	Sheridan Colorado County	Sour Lake Hardin County
1893-1900													[F]
1901						[A]							[A]
1902						[D]							[D]44,838
1903						[C]148,159							[C]8,700,000
1904						739,239							6,442,357
1905						3,125,028							3,362,153
1906						2,182,057							2,156,010
1907						2,130,928							2,353,940
1908						1,634,786							1,595,060
1909						1,183,559							1,703,798
1910						1,024,348							1,518,723
1911						925,777							1,364,880
1912						1,116,655							1,175,108
1913						937,720							1,348,053
1914						889,743							5,209,208
1915						864,266							4,114,622
1916						781,128							4,923,332
1917						682,797							4,763,004
1918						722,353							3,407,696
1919						737,000							2,709,000
1920						549,000							2,024,000
1921						1,129,000							1,802,000
1922						713,000							1,675,000
1923						626,000							1,906,000
1924						543,000							1,588,000
1925						514,000							1,444,000
1926						482,000							2,004,000
1927	[G]1,000					413,000							1,593,000
1928	[G]96,775		[G]1,800			343,000							1,185,000
1929	[G]2,089,909		[G]10,990			333,000							946,000
1930	[G]3,866,149		[G]5,604			380,000							806,000
1931	[G]2,692,333		[G]1,347			360,000							675,000
1932	[G]1,771,323		[G]5,183			326,000							570,000
1933	[G]1,501,793		[G]3,967			302,000							453,000
1934	[G]1,352,185	[G]136,442	[G]2,644			291,000							484,000
1935	[G]1,082,040	[G]599,170	[G]4,143			315,000							602,000
1936	[G]961,000	[G]961,000	[G]500			405,000		[G]500			[G]6,000		561,000
1937	[G]800,000	[G]1,203,000			[G]51,000	[G]351,000	[G]130,000	[G]36,000		[G]472,000	[G]464,000		569,000
1938[G]	475,029	731,357			117,310	329,198	115,782	88,058	68,445	643,605	602,826		433,325
1939[G]	401,047	633,009		6,042	46,096	331,017	107,498	105,489	435,577	529,595	530,493		408,805
1940[G] (6 months)	250,413	463,287	1,986		11,614	142,164	65,268	28,187	480,541	205,836	213,633	2,242	225,518
Total	17,340,996	4,727,265	38,164	6,042	226,020	29,302,922	418,548	258,234	984,563	1,851,036	1,816,952	2,242	78,846,430

Mineral Resources Figures on Racoon Bend (Shallow and Deep)

Year	Bbls. Prod.
1927	1,000
1928	98,000
1929	2,084,000
1930	3,893,000
1931	2,704,000
1932	1,814,000
1933	1,544,000
1934	1,489,000
1935	1,681,000
1936	1,922,000
1937	2,002,000

See footnotes on page 63.

What Counts is the VALUE *that shows up on the job*



Here is the largest spudder ever mounted on a truck and driven by the truck engine—a double-drum combination drilling and clean-out machine on an International A-8 Truck. This portable outfit is owned by the S. E. Frogge Well Servicing Co., Oklahoma City, and shown here servicing a well in Oklahoma City. It drills to a depth of 7,000 feet, and cleans out to a depth of 10,000 feet. This International Truck engine is equipped with a natural gas carburetor, enabling it to use gas when it is set up on the job. The Frogge Company uses two more International A-8 Trucks for clean-out work.

THERE'S *a great deal more* to International Trucks than meets the eye when you see them rolling along with their loads or standing on the showroom floor.

We mean the things you'll find out only after you put Internationals on the job . . . things like their *lasting economy, dependability, trouble-free performance, stamina,* and *long life.* You can't put your finger on qualities like these *but owners know they're there.* That's why men keep coming back to International when they need new trucks!

International reputation is built as much on these "hidden values" that come out day after day and year after year as on the sound engineering, quality construction, and all-around mechanical excellence that go into these trucks. Ask any International owner . . . and then see for yourself by putting the right Internationals to work on your own loads. Sizes range from Half-Ton units to powerful Six-Wheelers. See the nearby International dealer or Company branch for complete information.

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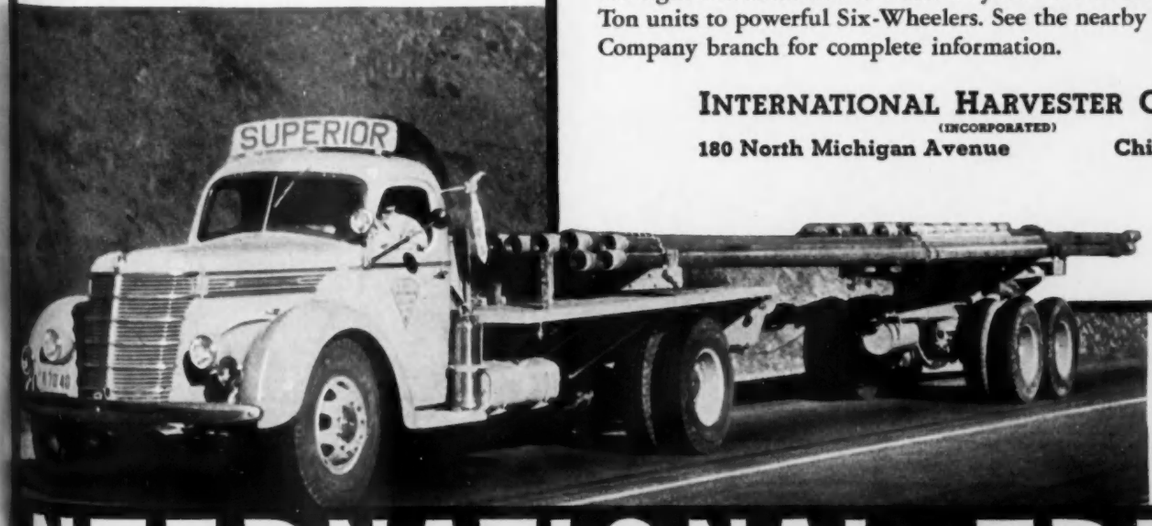


An International Heavy-Duty Truck hauling 40-ft. lengths of 6-in. drill pipe on a 100-mile haul for the Superior Oil Co., Los Angeles.

NTERNATIONAL TRUCKS

ducing horizons, and extensions increased reserves nearly 300,000,000 barrels. An estimate at July 1, 1940, allowed an additional 360,000,000 barrels for the 16 new fields, 27 new sands, and revisions of estimate effected in the first half of the year.

Exploration in the time elapsed since THE OIL WEEKLY's Gulf Coast number of 1938 has brought many important fields into the panorama. In 1938, in the Texas division, 10 new fields resulted from 107 wildcat wells, including Fairbanks, Lovell's Lake, Clear Lake, and League City, all now accredited with an ultimate recovery of 25,000,000 barrels or more. Reworking of the Conroe trend to test Sparta-Wilcox possibilities, a play touched off by the 1937 discovery of Wilcox production at Joe's Lake, resulted in an important Wilcox strike in the Segno field. Discoveries of that year in the Louisiana Gulf Coast, 19 in number, included Bancroft, Chalkley, Creole, and Golden Meadows, each of which is now estimated capable of producing 20,000,000 barrels.

In 1939, 116 wildcats were drilled to find 14 new coastal Texas fields, none of which have since bid for major importance except Angleton, a 12,000,000-barrel reservoir. In the Louisiana sector Eola, important Wilcox field was found and soon became the most active field in the state, attaining a daily output of 8500 barrels within a year after discovery. Paradis, St. Charles Parish discovery, reputedly capable of over 100,000,000 barrels ultimate production because of an unusually thick sand section, was the year's outstanding strike.

Discoveries made in 1940 are, at this date, difficult to evaluate. It appears that Neale, Beauregard Parish; Bayou Perot, LaFourche Parish, and Schooner Bayou, Vermilion Parish, are the most likely of the 12 Louisiana new fields to emerge from the questionable classification in which they must all be placed. On 11 fields found in the Texas district in the first 8 months of 1940, five are distillate fields and therefore not reckoned an appreciable addition to reserves. Two of the remaining fields are dry gas discoveries, significant only of possible oil production. Alta Loma, Galveston County, is accredited the major find to date in 1940, with the conversion of the Spurger gas area to Cockfield oil production worthy of note.

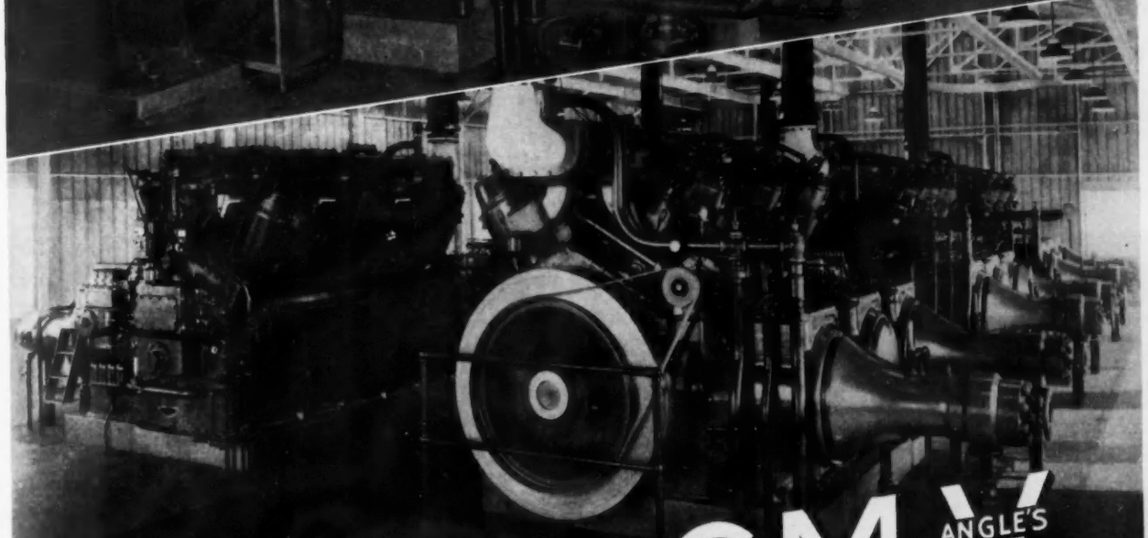
It is true that with the possible speculative exception of Paradis, Coastal exploration of the past two years has not yielded a potential Conroe, Friendswood, or Jennings. However, the consistent rate at which new fields and prospects are found, and the ever-growing inclination of the operator to count no structure condemned without probing every possibility, all indicate that Gulf Coast developments will be in the news for years to come. Possibly the key to unmade

Texas Gulf Coast Crude Oil Production, by Fields, by Years (Continued)

YEAR	South China Jefferson County	South Houston Harris County	South Liberty Liberty County	Spindle Top Jefferson County	Splendora Montgomery County	Spurger Tyler County	Stratton Ridge Brazoria County	Sugarland Fort Bend County	Thompsons (Shallow—3057-89) & (Deep—5100-5410) Fort Bend County	Thompsons (Miocene—4300) Fort Bend County	Thompsons (Vicksburg—7730-7820) Fort Bend County
1893-1900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1901	.....	.....	.....	3,593,113	.....	.....	.....	.....	.....	.....	.....
1902	.....	.....	.....	17,420,949	.....	.....	.....	.....	.....	.....	.....
1903	.....	.....	.....	8,600,905	.....	.....	.....	.....	.....	.....	.....
1904	.....	.....	.....	3,433,842	.....	.....	.....	.....	.....	.....	.....
1905	.....	.....	.....	1,652,780	.....	.....	.....	.....	.....	.....	.....
1906	.....	.....	.....	1,077,492	.....	.....	.....	.....	.....	.....	.....
1907	.....	.....	.....	1,699,943	.....	.....	.....	.....	.....	.....	.....
1908	.....	.....	.....	1,747,537	.....	.....	.....	.....	.....	.....	.....
1909	.....	.....	.....	1,388,107	.....	.....	.....	.....	.....	.....	.....
1910	.....	.....	.....	1,182,436	.....	.....	.....	.....	.....	.....	.....
1911	.....	.....	.....	965,939	.....	.....	.....	.....	.....	.....	.....
1912	.....	.....	.....	822,916	.....	.....	.....	.....	.....	.....	.....
1913	.....	.....	.....	716,374	.....	.....	.....	.....	.....	.....	.....
1914	.....	.....	.....	580,130	.....	.....	.....	.....	.....	.....	.....
1915	.....	.....	.....	388,266	.....	.....	.....	.....	.....	.....	.....
1916	.....	.....	.....	340,441	.....	.....	.....	.....	.....	.....	.....
1917	.....	.....	.....	380,039	.....	.....	.....	.....	.....	.....	.....
1918	.....	.....	.....	557,128	.....	.....	.....	.....	.....	.....	.....
1919	.....	.....	.....	407,000	.....	.....	.....	.....	.....	.....	.....
1920	.....	.....	.....	322,000	.....	.....	.....	.....	.....	.....	.....
1921	.....	.....	.....	344,000	.....	.....	.....	.....	.....	.....	.....
1922	.....	.....	.....	289,000	.....	.....	[8]8,400	.....	.....	.....	.....
1923	.....	.....	.....	326,000	.....	.....	[8]675	.....	.....	.....	.....
1924	.....	.....	.....	359,000	.....	.....	[8]9,085	.....	.....	.....	.....
1925	.....	.....	4,416,000	412,000	.....	.....	.....	.....	.....	.....	.....
1926	.....	.....	1,992,000	13,441,000	.....	.....	.....	.....	.....	.....	.....
1927	.....	.....	1,084,000	20,751,000	.....	.....	.....	.....	.....	.....	.....
1928	.....	.....	1,398,000	14,150,000	.....	.....	.....	390,000	.....	.....	.....
1929	.....	.....	2,137,000	10,037,000	.....	.....	.....	3,948,000	.....	.....	.....
1930	.....	.....	1,503,000	6,176,000	.....	.....	.....	4,274,000	.....	.....	.....
1931	.....	.....	694,000	3,301,000	.....	.....	.....	4,216,000	808,000	.....	.....
1932	.....	.....	369,000	1,387,000	.....	.....	[6]560	3,487,000	4,201,000	.....	.....
1933	.....	.....	255,000	1,149,000	.....	.....	[6]11,654	2,532,000	4,906,000	.....	.....
1934	.....	.....	155,000	1,052,000	[6]676	.....	.....	2,183,000	4,245,000	.....	.....
1935	.....	[6]79,688	190,000	962,000	[6]320	.....	.....	2,098,000	4,123,000	.....	.....
1936	.....	1,219,000	227,000	858,000	.....	.....	.....	1,715,000	3,523,000	.....	.....
1937	.....	[6]1,966,000	[6]217,000	912,000	.....	[6]68,000	.....	1,322,000	4,147,000	.....	.....
1938[6]	.....	1,141,790	187,062	825,666	.....	284,733	.....	1,222,432	4,021,685	.....	.....
1939[6]	16,826	946,809	139,627	773,939	.....	414,306	.....	1,242,435	4,354,735	42,776	197,307
1940[6] (6 months)	44,481	351,953	96,060	327,054	.....	310,730	.....	857,722	1,985,863	255,329	255,437
Total	61,307	5,705,240	15,059,749	125,109,996	996	1,077,769	30,374	29,487,589	36,315,283	298,105	452,744

See footnotes on page 68.

Type G-MV, 400 and 600-hp compressors at Tide Water-Seaboard's Cayuga No. 2 recycling plant.



WHY SO MANY GM V ANGLE'S IN RECYCLING?

Type G-MV units in the pressure-maintenance plant of Abercrombie-Harrison companies at Sweeny, Texas

Because . . .

- **More Power In Less Space** . . . "V" power cylinders give double horsepower over straight "angle" type units. V-angle design saves housing and foundation costs.
- **Husky, for the Toughest Jobs** . . . G-MV combines ruggedness with compactness. Meehanite Metal for all iron cast parts. Oversize crankshaft. Oversize bearings . . . two between each throw.
- **Silent-Scot Fuel Injection** . . . Quiet and thrifty! No raising or lowering of valves to regulate fuel flow. No clatter. Equal load distribution among cylinders. Quantity of fuel automatically governed.
- **Easy to Transport and Install** . . . Shipped by rail or truck, completely assembled except for attaching compressor cylinders. Quickly installed and put into service.
- **Streamlined Scavenging** . . . Scavenging air furnished by separate scavenging pistons for each crankthrow. A steady . . . not intermittent . . . flow of fresh air directed scientifically into cylinders.
- **Oil-Cooled Pistons** . . . for lower piston temperatures, reduced cylinder-to-piston clearance, less wear, improved lubrication and elimination of "stuck" rings.

There's a new G-MV catalog just coming off the presses . . . giving complete details. Write for your copy.

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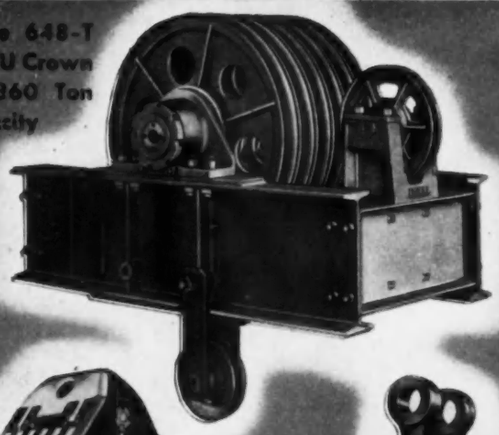
IDEAL

"Reg. U. S. Pat. Off."

DEEP DRILLING
Rotary Equipment

THE *COMPLETE ROTARY LINE* THAT ANTICIPATES *DEEPER DRILLING* REQUIREMENTS

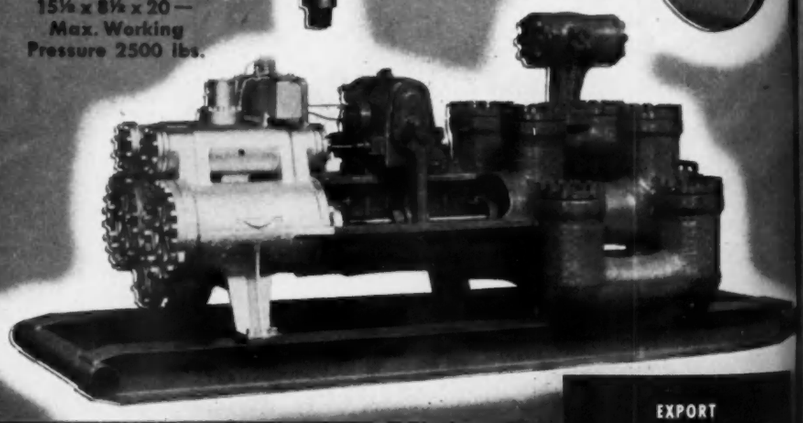
Ideal Type 648-T and 648-TU Crown Blocks — 360 Ton Capacity



Ideal Swivels
Type M-3, 250 Ton Capacity
Type E-3, 150 Ton Capacity

Ideal Type CA-30 Rotary Hook, 300 Ton Capacity

IDEAL STEAM PUMPS
15½ x 9¼ x 22— Max. Working Pressure 3750 lbs.
15½ x 8½ x 20— Max. Working Pressure 2500 lbs.



Ideal Type "T" Series Traveling Blocks—300 Ton Capacity

Ideal Hydraulic Weight Indicator, Type TE-30 with Type DAT-30 Connector

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GENERAL SALES OFFICE
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THE NATIONAL SUPPLY COMPANY

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RIVER PLATE HOUSE
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LIMITED LIABILITY
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PLOESTI, ROUMANIA
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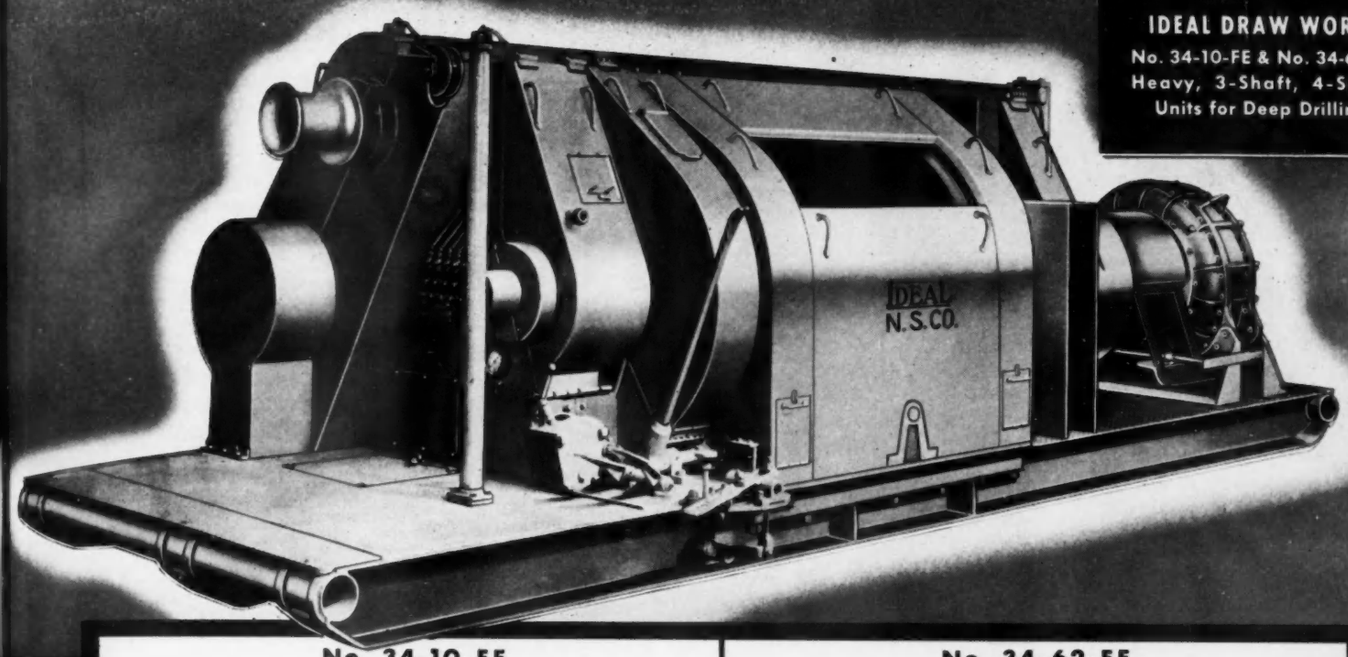
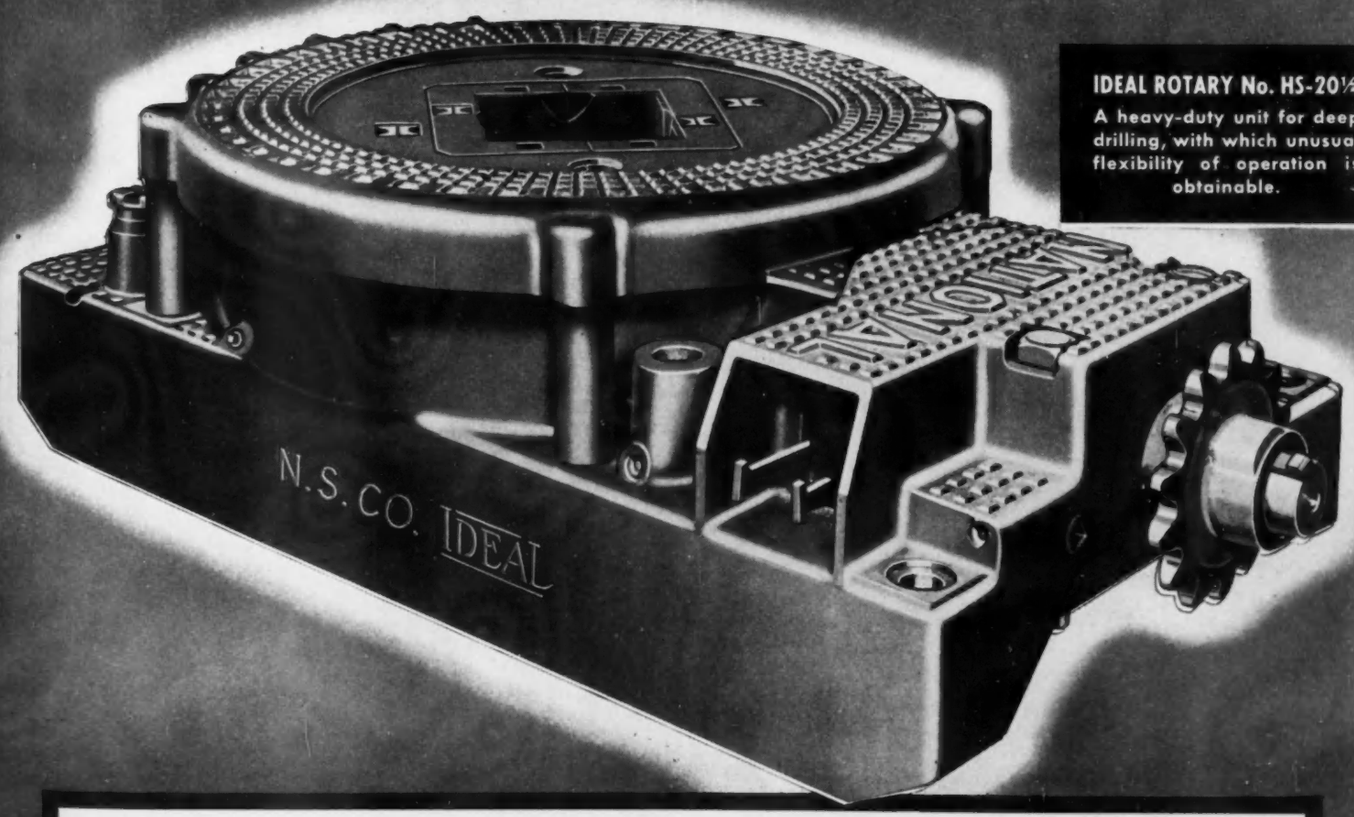
MARACAIBO, VENEZUELA



IDEAL DRAW WORKS
No. 34-10-FE & No. 34-62-FE
Heavy, 3-Shaft, 4-Speed
Units for Deep Drilling.

No. 34-10-FE	No. 34-62-FE
54" Diameter Brake Rims	62" Diameter Brake Rims
10" Nominal Diameter Drum Shaft	11¾" Nominal Diameter Drum Shaft
28" Diameter x 40" Spooling Drum	32" Diameter x 57⅝" Spooling Drum
K-54 Compound Equalizing Brakes	K-62 Compound Equalizing Brakes
No. 3⅛ Double or No. 4 API Chain Drives	3⅛" Double Chain Drives



IDEAL ROTARY No. HS-20½
A heavy-duty unit for deep drilling, with which unusual flexibility of operation is obtainable.

HEAVY-DUTY TABLE BEARINGS—Ball bearings for both main and hold-down bearings.

SPIRAL BEVEL GEARS—Spiral cut teeth made from alloy steel.

PINION SHAFT—Heat treated alloy forging. Entire assembly is removable as a unit.

TABLE BEARING ADJUSTMENT—Simplified bearing adjustment with a threaded adjusting ring.

TABLE-BASE SEAL—Double tongue-and-groove labyrinth between the table and base prevents entrance of mud or the escape of oil.

OIL BATH LUBRICATION—Bearing and pinion operate continually in oil.

PINION SHAFT LOCK—Lock pawls are fully protected in the base. Operating handles are easily accessible from side opposite the draw works.

Coastal history is in the Wilcox exploration of the counties bordering the salt dome belt. A marked dissociation of the spirit of Gulf Coastal oil search from traditional salt dome theories indicates that this may be true in the future as it was in the case of Joe's Lake, Segno, and Eola.

It is doubtful that exploratory operations anywhere are carried on with more diligence than in the Gulf Coast. In 1938 a total of 860,000 acres was placed under lease in the Texas Gulf Coast by major and independent operators, bringing the total leased, unproven acreage to over 4,000,000 acres. In 1939, 155 new blocks totaling 1,850,00 acres (including 650,000 acres taken on geophysical option), were taken, with 52 surrendered, making a total of 313 blocks in effect at January 1, 1940, and placing the total unproven leased acreage figure for the Texas sector near the 5,000,000 mark. The $7,800,000 investment for leasing in this district in 1938 represented a third of the total allocation for leasing in all districts of Texas and Louisiana, with the $5,500,000 expended in 1939 representing a similar proportion.

These clues to the future of the area are strengthened by the pace at which geophysical activities are being carried on. In 1937 the average number of geophysical crews working in the Texas division was 29. In 1938 the average was 22 crews, while in 1939 a maximum of 47 and an average of 42 crews worked 2155 crew weeks; divided into 1544 crew weeks reflection seismograph; 88 weeks torsion balance, and 533 weeks gravimeter. For Eastern South Louisiana in 1939 geophysical work comprised 932 crew weeks; divided into 732 crew weeks reflection seismograph;

Texas Gulf Coast Crude Oil Production, by Fields, by Years (Continued)

YEAR	Tomball Harris-Montgomery Counties	Turtle Bay Chambers County	Van Vleck Matagorda County	West Beaumont Jefferson County	West Columbia Brazoria County	West Orange Orange County	Willow Slough Chambers County	Withers Wharton County	Total Texas Gulf Coast
1893-1900	.....	.....	.....	.....	.....	.....	.....	.....	[F]
1901	.....	.....	.....	.....	.....	.....	.....	.....	3,593,113
1902	.....	.....	.....	.....	[A]	.....	.....	.....	17,465,787
1903	.....	.....	.....	.....	.....	.....	.....	.....	17,453,582
1904	.....	.....	.....	.....	[A]	.....	.....	.....	21,672,111
1905	.....	.....	.....	.....	.....	.....	.....	.....	27,615,877
1906	.....	.....	.....	.....	.....	.....	.....	.....	11,449,952
1907	.....	.....	.....	.....	.....	.....	.....	.....	11,400,209
1908	.....	.....	.....	.....	.....	.....	.....	.....	10,478,515
1909	.....	.....	.....	.....	.....	.....	.....	.....	8,765,488
1910	.....	.....	.....	.....	.....	.....	.....	.....	7,800,366
1911	.....	.....	.....	.....	.....	.....	.....	.....	7,272,481
1912	.....	.....	.....	.....	.....	.....	.....	.....	6,458,506
1913	.....	.....	.....	.....	.....	.....	.....	.....	5,823,606
1914	.....	.....	.....	.....	.....	.....	.....	.....	10,615,282
1915	.....	.....	.....	.....	.....	.....	.....	.....	17,421,894
1916	.....	.....	.....	.....	.....	.....	.....	.....	18,297,679
1917	.....	.....	.....	.....	[E]	.....	.....	.....	21,477,721
1918	.....	.....	.....	.....	[E]	.....	.....	.....	21,422,277
1919	.....	.....	.....	.....	5,611,000	.....	.....	.....	21,055,310
1920	.....	.....	.....	.....	9,459,000	.....	.....	.....	25,721,992
1921	.....	.....	.....	.....	12,081,000	.....	.....	.....	34,435,000
1922	.....	.....	.....	.....	11,126,000	.....	.....	.....	35,379,800
1923	.....	.....	.....	.....	5,994,000	.....	.....	.....	30,840,091
1924	.....	.....	.....	.....	4,536,000	.....	.....	.....	26,098,098
1925	.....	.....	.....	.....	4,031,000	.....	.....	.....	29,863,000
1926	.....	.....	.....	.....	3,197,000	.....	.....	.....	41,060,700
1927	.....	.....	.....	.....	3,791,000	.....	.....	.....	46,837,001
1928	.....	.....	.....	.....	2,800,000	.....	.....	.....	39,466,769
1929	.....	.....	.....	.....	2,298,000	.....	.....	.....	47,398,652
1930	.....	.....	.....	.....	1,827,000	.....	.....	.....	49,558,191
1931	.....	.....	.....	.....	1,310,000	.....	.....	.....	38,553,757
1932	.....	.....	.....	.....	1,295,000	.....	.....	.....	37,811,170
1933	233,000	.....	.....	.....	[G]1,198,316	.....	.....	.....	56,811,890
1934	990,000	.....	[G]11,515	.....	1,038,000	.....	.....	.....	53,508,314
1935	1,899,000	[G]1,680	[G]26,572	.....	857,000	.....	.....	.....	54,963,892
1936	2,611,000	[G]154,000	[G]482,000	[G]15,000	773,000	.....	.....	[G]228,000	62,476,000
1937	3,063,000	[G]329,000	[G]666,000	[G]346,000	825,000	16,000	3,500	570,000	72,602,500
1938[G]	2,594,049	395,807	758,544	516,717	1,643,855	276,613	124,178	928,846	73,376,738
1939[G]	2,528,047	367,318	779,669	1,028,683	2,251,296	707,577	129,317	1,337,008	78,293,221
1940[G] (6 months)	1,385,303	148,741	453,570	558,553	1,236,204	347,870	44,834	999,791	39,336,967
Total	15,303,399	1,396,546	3,174,870	2,464,953	78,678,671	1,348,060	301,829	4,063,645	1,241,933,499

Footnotes for Texas Gulf Coast Production Tables, Pages 59 to 68

[A] Small production, but no record available.

[B] Small production at Big Hill (Matagorda) after 1907 included with Markham. (*Mineral Resources*, 1915, reported only one producer at Big Hill in 1915. Degolyer and Other's *Geology of Salt Dome Oil Fields*, 1926, indicated that after 1907 Big Hill produced not over 300,000 barrels.)

[C] Sour Lake and Saratoga for 1903 are estimates included in text in *Mineral Resources*, 1903.

[D] Sour Lake in 1902 includes the limited output of Saratoga and numerous other Texas districts outside Corsicana, Powell and Spindle Top.

[E] Damon Mound includes production at West Columbia.

[F] No record available of first production at Sour Lake in 1893, 1894, and 1895; small production in 1896-1897 included with Corsicana; in 1898-1899 included with Nacogdoches; in 1900 included with Powell, all in East Central and East Texas districts.

[G] Figures from oil company records; where applied to a year, all figures for that year are from company records.

[H] Sunshine area, adjoining Livingston field, had small production beginning in 1930, but no records available.

[I] Based on figures compiled weekly by THE OIL WEEKLY; the yearly figures having been published originally in annual statistical issues.

[J] Estimated by THE OIL WEEKLY from statement in text of *Mineral Resources*, 1908, Part II, P. 396.

[K] Goose Creek in 1908 obtained from figures in *Mineral Resources*, 1908, Part II, P. 397-398.

[M] According to *Mineral Resources* of 1904, Humble produced about 2,000 barrels which were not sold.

[N] Also includes estimated production of previous years marked "A."

[P] Calculated by deducting oil company figure for Barbers Hill from *Mineral Resources* totals for Goose Creek-Barbers Hill.

[S] Estimated by THE OIL WEEKLY with aid of Degolyer and Others' *Geology of Salt Dome Oil Fields*.

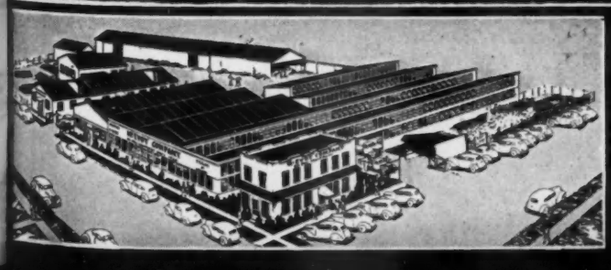
[T] Based on weekly reports of American Petroleum Institute, the yearly figures having been calculated by THE OIL WEEKLY and published originally in annual statistical issues.

McEVOY
IN THE GULF COAST

This two string McEvoy Well Head and Christmas Tree is widely used in the Gulf Coast fields.

Tested to 6,000 pounds, it is designed for the high pressures in these fields. Your choice of casing and tubing hangers adapts this head to your specific requirements.

Whatever your conditions, McEvoy has the right well head . . . *Call Us.*



McEVOY COMPANY

OIL WELL EQUIPMENT

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SINCE 1906

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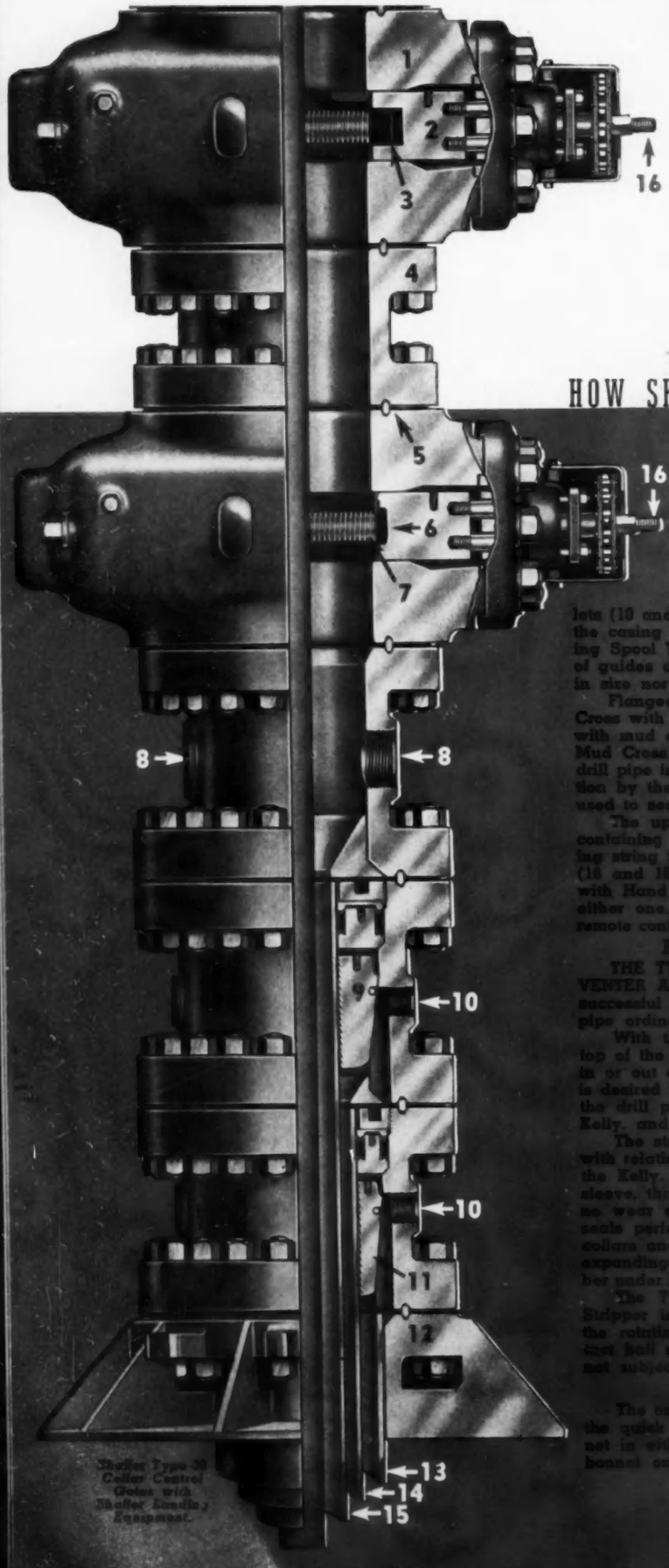
Positive Shut-Off + Easy Stripping = SAFE PRESSURE CONTROL



Shaffer Type 38 Cellar Control Gates with Shaffer Landing Equipment.

Shaffer High Pressure Drilling and Control Equipment not only provides a fast, safe and convenient method of shutting off well pressures while drilling or when all the tools are out of the well, but also insures safe control and easy handling when stripping, whether the string is made up of standard coupled, upset, flush joint, or any other type of drill pipe.

HOW SHAFFER PROVIDES PRESSURE CONTROL

The hook-up shown at left (plus the Shaffer Combination Rotating Blow-Out Preventer and Stripper above at right) provides complete safety for drilling under pressure, or for drilling with mud control alone, in wells where the highest pressures may be expected. This one hook-up will permit drilling the well from start to finish.

At the bottom is a Shaffer Landing Base (12) to which the surface string (13) is welded; two additional strings (14 and 15) are shown landed and packed-off, each in its own Shaffer Full Opening Spool Type Landing Head, and suspended by individual slips (9 and 11). Suitable outlets (10 and 10) are provided to meet any emergency that may arise. With the casing program determined, the correct number of Shaffer Full Opening Spool Type Landing Heads are installed, and with the later addition of guides of proper size, the drilling connections need never be changed in size nor length.

Flanged to the upper Landing Head is a Shaffer Double Flange Mud Cross with outlets (8 and 8) for mud lines to provide for pressure drilling with mud control. The lower Shaffer Cellar Control Gate (flanged to the Mud Cross) is equipped with Rams (6) for a complete shut-off when the drill pipe is out of the hole, the Rams being brought to a fully closed position by the large Operating Screws (7). A.P.I. Ring Joint Flanges (5) are used to seal-off between the various units in the hook-up.

The upper Cellar Control Gate (1) is equipped with Ram Blocks (2) containing Ram Rubbers (3) to close around the drill pipe when the drilling string is in the hole. To the protruding ends of the Operating Screws (15 and 16) a Shaffer Gate Closing Engine or a Shaffer Universal Joint with Hand Wheel is attached, by means of extended lazy rods, so that either one, or both, Cellar Control Gates may be opened or closed by remote control from beyond the derrick floor.

HOW STRIPPING IS MADE SAFE AND EASY

THE TYPE 40 SHAFFER COMBINATION ROTATING BLOW-OUT PREVENTER AND STRIPPER combines in one device all features needed for successful and simplified drilling under pressure with Kelly and drill pipe ordinarily used.

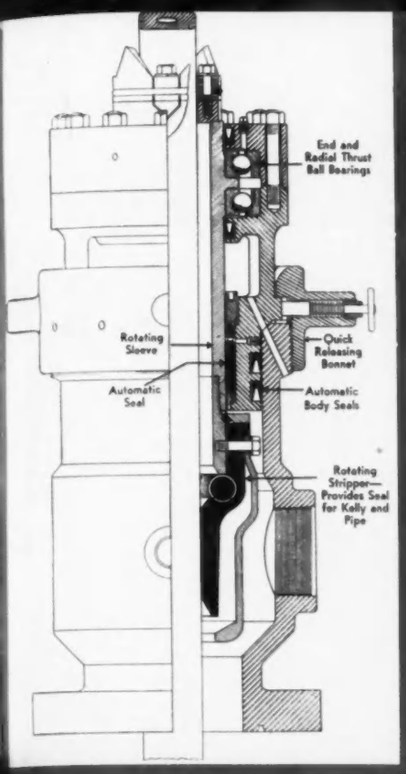
With this Rotating Blow-Out Preventer and Stripper installed at the top of the well, the operator may drill under pressure and strip drill pipe in or out of the well with no hinderance to drilling operations. When it is desired to add pipe to the drilling string, it is necessary merely to raise the drill pipe through the stripper, add the additional pipe, connect the Kelly, and lower the string to continue drilling operations.

The stripper is so designed that when using a Kelly of suitable size with relation to the size of the drill pipe, a perfect seal is obtained around the Kelly. As the rubber is attached to the lower end of the rotating sleeve, the stripper rubber rotates with the Kelly, and there is practically no wear on the stripper rubber while drilling. The stripper rubber also seals perfectly around the drill pipe, expanding and contracting to pass collars and tool joints while running in or out of the hole. A patented expanding coil spring, molded in this rubber, prevents extrusion of rubber under high pressures.

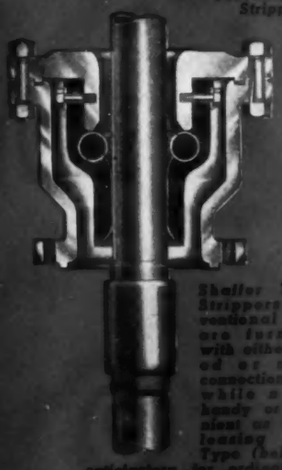
The Type 40 Shaffer Combination Rotating Blow-Out Preventer and Stripper is constructed with windows which make it possible to adjust the rotating sleeve packing without any dismantling. The angular contact ball races provide radial as well as end thrust, run in oil and are not subject to infiltration of sand and mud.

QUICK, SIMPLE ASSEMBLY

The entire rotating assembly is quickly removed from the body through the quick action of the Retaining Bonnet. A spring latch locks the Bonnet in either open or closed position. Pulling the Latch and turning the bonnet one-eighth turn to the left unlocks the rotating assembly for re-



Shaffer Type 49 Combination Rotating Blow-Out Preventer and Stripper.



Shaffer Tubing Strippers (conventional type) are furnished with either flanged or screw connection, and while not so handy or convenient as the Releasing Bonnet Type (below) are satisfactory for ordinary purposes and are lower in cost.

Stripper Assembly used with Shaffer Releasing Bonnet. The Stripper Rubber has an automatic sealing lip for sealing on the wall of the Stripper Body.

moval. By turning the bonnet one-eighth turn to the right, the rotating assembly is safely locked in when drilling is resumed. Automatic seals in the rotating sleeve housing seat against the body wall and provide a leak-proof seal when the Rotating Assembly is installed in the body. During the entire drilling operation it is necessary only to remove the rotating assembly from the body for the removal of the drilling bit.

Ordinarily the body is furnished with one 2-inch overflow outlet, and a 2-inch connection for the fill-up line.

SHAFFER DOUBLE GATE HOOK-UPS

The 5000 pound test Shaffer Double Cellar Control Gates were developed for drilling operations where vertical cellar space will not permit the use of ordinary installations. For "Slim Hole" drilling this double gate has met with unanimous approval by operators everywhere. A later development is the Shaffer Double Gate with Tubing Stripper, which is a light weight unit for stripping tubing under pressure. This light, compact unit can easily be transported from well to well, and the vertical height as well as other dimensions, have been held to a minimum.

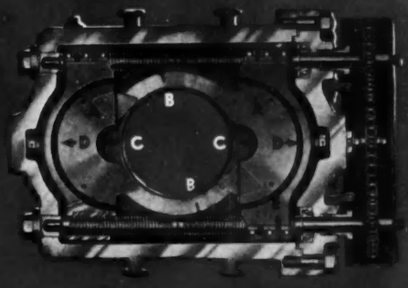
The hook-up illustrated is designed for pulling or running tubing under pressure, and all the features of convenience and safety present in other type of Shaffer Control Gates have been retained. The type shown may be flanged direct to the top of the tubing head, and the total height of the Double Gate and Stripper is held to approximately 24 inches in the 7" unit. The Stripper is of heavy construction, and will operate smoothly and safely under pressures which are considered safe for successful tubing stripping operations. All of the patented features contained in the Shaffer Rotating Blow-Out Preventer and Stripper are present, including a coil spring moulded in the stripper rubber to prevent extrusion of the rubber under pulling and high pressures.

Below the Stripper is the Double Gate equipped with Tubing Rams in the upper compartment, and rams for a complete shut-off in the lower compartment. Each set of rams is operated by individual Hand Wheels positioned on opposite ends of the gate. If while stripping tubing an emergency arises, the rams in the upper compartment of the Double Gate are quickly closed around the tubing, and the well is shut in. The Stripper may at any time be removed without danger of a blowout. When the tubing is removed from the well, the complete shut-off rams in the lower compartment of the Double Gate are closed to shut in the well completely, either for a temporary or an indefinite period.

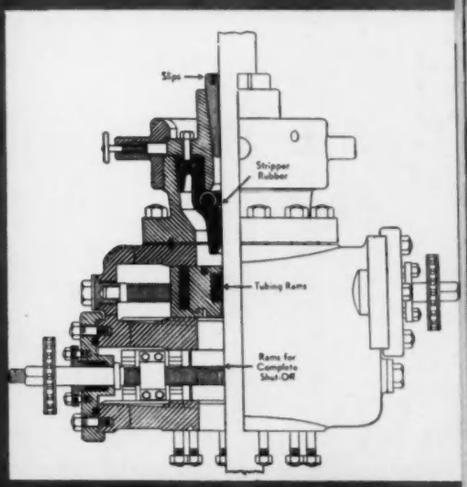
The Shaffer Releasing Bonnet feature permits the Stripper Assembly to be removed or replaced quickly and easily. A spider, with slips, at the top of the Stripper Plate, provides a means for safe and easy handling of tubing. The Shaffer Double Gate has the same minimum bore as A.P.I. Drilling-Through Valves, so that maximum size tubing hangers can be run through the gate without difficulty.

THE NEW SHAFFER GATE CLOSING ENGINE

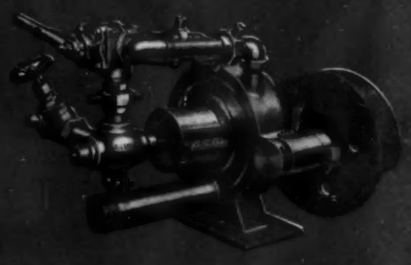
At the first warning of an impending blowout, a single valve on the steam line is opened, and the Shaffer Gate Closing Engine closes one Gate (or with a sliding gear attachment may be arranged to close either of the two Shaffer Cellar Control Gates in a few seconds). Under actual well conditions a 13⅝ inch Shaffer Cellar Control Gate was closed in 5 seconds. You can apply this positive, effortless method of opening and closing to your present Shaffer Cellar Control Gates; any Shaffer Office will furnish all details.



Looking down into a Shaffer Cellar Control Gate to see the Self Centering Rams (C and A) which guide small diameter drill pipe to a centralized position in the bore of a large diameter Gate; the large, stainless steel Operating Screws (B and B) are securely bolted to the Ram Blocks (as shown by E) and bring the Blocks quickly to a closed position. The Ram Rubbers at (D and D) are extruded to seal against the upper and lower inside faces of the Gate when the Rams are closed.



Shaffer DOUBLE Cellar Control Gate with Tubing Stripper also made for "slim hole" drilling.



Shaffer Gate Closing Engine for closing and opening of Shaffer Cellar Control Gates with a speed and safety never before possible.

SHAFFER

Specialists in

HIGH PRESSURE DRILLING AND CONTROL EQUIPMENT
FISHING TOOLS THAT EXCEL . . . Described in the Composite Catalog

SHAFFER TOOL WORKS, BREA, CALIFORNIA • California Service Shops: Santa Fe Springs, Taft, Ventura & Avenal
HOUSTON, TEXAS, 6006 Navigation Boulevard • OKLAHOMA CITY, OKLA., ACME OIL TOOL COMPANY, 1001 S.E. 29th Street
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3 crew weeks refraction seismograph; 160 crew weeks gravimeter; 37 crew weeks torsion balance. In addition, 3 soil analysis parties spent a total of five weeks in this area. In Western South Louisiana the average number of working crews was between 10 and 15, with the total of crew weeks being approximately 550.

With numerous prospects, characteristically large per-acre recoveries, and nearness to tidewater as inducements to drill, it is to be expected that development, subject to general variables that affect the entire industry, will continue at a rapid rate for several years. Coastal Louisiana, offering an added inducement in higher allowables to overbalance the extra cost of development, is experiencing a boom year. Completions for the first 8 months of 1940 totaled 735; 62 percent greater than for the similar period of 1939. Wildcat activity through the year accounted for 15 to 35 of the average 130 rigs in operation. Drilling activity in the Texas Gulf Coast accounted for 883 completions in 8 months of 1940—a decline of 7 percent from 1939. At September 1, 1940, 124 rigs were in operation in the Texas division.

As revealed by the comprehen-

Louisiana Gulf Coast Crude Oil Production, by Fields, by Years

Complete Production History of District, in Barrels of 42 U. S. Gallons

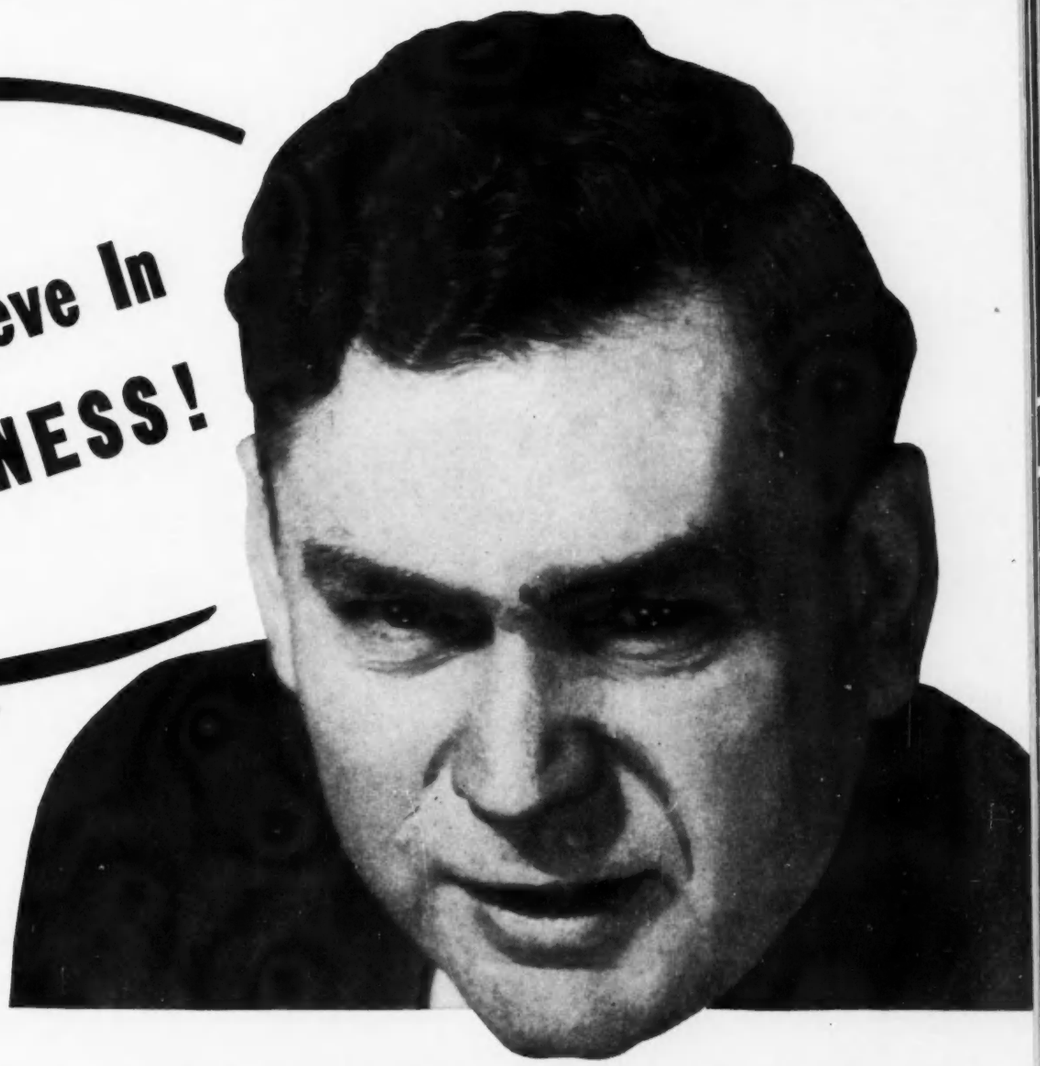
(Sources—Except as otherwise indicated in footnotes, figures are from annual volumes of *Mineral Resources* and *Minerals Yearbook*.)

YEAR	Abbeville Vermilion Parish	Anse la Butte St. Martin Parish	Bancroft Beauregard Parish	Barataria Jefferson Parish	Bateman Lake St. Mary Parish	Bayou Blue Iberville Parish	Bayou Bouillon St. Martin Parish	Bayou des Allemands St. Charles Parish	Bayou des Glaise Iberville Parish	Bayou Mallet Acadia Parish	Bayou Pigeon Iberia Parish	Bay St. Elaine Terrebonne Parish	Big Lake Cameron Parish	Black Bayou Cameron Parish
1904	.....	[A]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1905	.....	9,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1906	.....	25,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1907	.....	60,385	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1908	.....	145,505	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1909	.....	37,930	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1910	.....	44,018	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1911	.....	62,411	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1912	.....	25,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1913	.....	6,612	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1914	.....	18,623	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1915	.....	20,982	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1916	.....	12,818	.....	.....	.....	.....	[A]	.....	.....	.....	.....	.....	.....	.....
1917	.....	4,900	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1918	.....	3,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1919	.....	.....	.....	.....	.....	.....	[A]	.....	.....	.....	.....	.....	.....	.....
1920	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1921	.....	47,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1922	.....	36,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1923	.....	18,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1924	.....	12,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1925	.....	17,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1926	.....	17,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1927	.....	17,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1928	.....	16,000	.....	.....	.....	.....	205,000	.....	.....	.....	.....	.....	.....	.....
1929	.....	14,000	.....	.....	.....	[B]6,523	72,000	.....	.....	.....	.....	.....	.....	[B]26,037
1930	.....	9,000	.....	.....	.....	[B]25,368	78,000	.....	.....	.....	.....	.....	.....	177,000
1931	.....	12,000	.....	.....	.....	[B]48,834	15,000	.....	.....	.....	.....	.....	.....	477,000
1932	.....	11,000	.....	.....	.....	[B]1,891	.....	.....	.....	.....	.....	.....	.....	353,000
1933	.....	[B]12,253	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	292,000
1934	.....	[B]13,363	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	422,000
1935	.....	[B]17,415	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	564,000
1936	.....	[B]22,000	.....	.....	.....	.....	[B]13,000	.....	.....	[B]56,000	.....	.....	[B]6,000	1,087,000
1937	[B]16,000	[B]67,000	.....	.....	[B]2,000	[B]2,000	[B]1,000	[B]37,000	.....	[B]64,000	.....	[B]50,000	[B]38,000	1,313,000
1938[B]	197,218	60,184	68,707	.....	148,700	13,312	15,277	58,106	.....	50,965	.....	82,676	24,175	1,285,274
1939[B]	169,991	23,420	852,345	17,241	245,964	5,244	15,865	62,582	.....	84,330	.....	131,955	6,658	1,045,631
1940[B] (6 months)	121,710	46,800	795,050	104,275	185,180	28,000	12,670	64,380	3,750	40,990	15,250	61,870	.....	[E]517,900
Total	504,919	964,919	1,716,102	121,516	581,844	131,172	427,812	222,068	3,750	296,285	15,250	326,501	74,833	7,553,842

YEAR	Bosco Acadia-St. Landry Parish	Caillou Island Terrebonne Parish	Cameron Meadows Cameron Parish	Cankton St. Landry Parish	Chacahoula La Fourche Parish	Chalkley Cameron Parish	Charenton St. Mary Parish	Cheneyville Rapides Parish	Crowley North Acadia Parish	Crowley South Acadia Parish	Choctaw Bayou Iberville Parish	Cote Blanche Bay St. Mary Parish	Creole Cameron Parish	Darrow Iberville Parish
1930	.....	[B]6,005	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1931	.....	.....	[B]20,154	.....	.....	.....	.....	.....	.....	.....	104,000	.....	.....	.....
1932	.....	.....	[B]23,063	.....	.....	.....	.....	.....	.....	.....	146,000	.....	.....	[B]805
1933	.....	362,000	[B]43,700	.....	.....	.....	.....	.....	.....	.....	100,000	.....	.....	[B]7,583
1934	1,036,000	1,784,000	419,000	.....	.....	.....	.....	[B]8,919	.....	.....	324,000	.....	.....	[B]3,854
1935	6,355,000	3,288,000	1,046,000	.....	.....	.....	.....	.....	.....	.....	276,000	.....	.....	263,000
1936	4,661,000	5,504,000	1,848,000	.....	.....	.....	[B]19,000	[B]165,000	.....	.....	346,000	.....	.....	526,000
1937	3,020,000	6,402,000	1,409,000	[B]11,000	.....	.....	[B]233,000	[B]99,000	[B]26,000	.....	440,000	.....	.....	717,000
1938[B]	2,071,111	6,305,044	1,267,067	9,802	58,884	745	1,068,178	157,599	361,718	1,786	496,232	.....	156,401	1,014,801
1939[B]	1,680,066	4,081,130	810,491	9,168	336,989	227,087	2,466,699	363,459	831,051	.....	418,174	.....	574,279	1,022,333
1940[B] (6 months)	[E]859,250	[E]1,374,900	388,900	.....	206,600	398,950	[E]1,740,350	509,600	[E]688,400	.....	191,750	5,700	335,400	418,150
Total	19,682,427	29,107,079	7,275,375	29,970	602,473	626,782	5,527,227	1,303,577	1,907,169	1,786	2,842,156	5,700	1,066,080	3,973,526

See footnotes on page 76.

Sure . . . I Believe In PREPAREDNESS!



PROFIT! BY USING Utility ELECTRIC POWER

● "I'm a production superintendent, and I'm for preparedness one hundred per cent.

"That's why I'm dead set on using Utility Electric Power for the operation of pumping wells and pipe line stations.

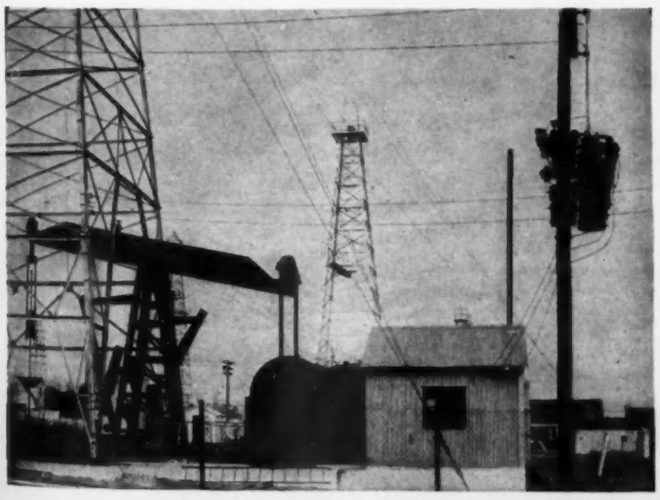
"For years we have been using this modern power here on the lease, and from experience I know how it stacks up with other types of power. The thing that impresses me most is its dependability, which gives one the feeling of complete preparedness, regardless of the job to be done.

"Naturally, I'm expected to help keep operating costs as low as possible. So it is to my advantage to recommend power that will help reduce these expenses.

"In this respect, I know Utility Electric Power is the most economical because there is no capital power investment to pay. All the user of Utility Electric Power pays for is the power used. The power company assumes the capital power investment.

"When you consider its smooth, silent, and ever dependable performance, coupled with its greater portability, longer life and higher salvage value, is it any wonder that production superintendents favor Utility Electric Power.

"Not only for preparedness but for top performance, day in and day out, is the reason Utility Electric Power gets my vote!"



Use Utility Electric Power

PETROLEUM ELECTRIC POWER ASSOCIATION

Louisiana Gulf Coast Crude Oil Production—(Cont'd)

YEAR	De Large Terrebonne Parish	Delta Farms La Fourche Parish	Dog Lake Bayou Terrebonne Parish	Edgerly Calcasieu Parish	Elton, North Allen Parish	Elton, South Jefferson Parish	Eola Avoyelles Parish	Evangeline Deep Acadia Parish	Evangeline Shallow Acadia Parish	Fausse Point Iberia Parish	Four Isles Terrebonne Parish	Garden Island Bay Plaquemines Parish	Gibson Terrebonne Parish	Gillis (English Bayou) Calcasieu Parish
1902									548,617					
1903									892,609					
1904									2,923,066					
1905									8,891,416					
1906									9,025,174					
1907									4,842,520					
1908									5,111,577					
1909									1,966,614					
1910									1,625,159					
1911									1,180,177					
1912									1,105,711					
1913				A					790,648					
1914				586,376					412,036					
1915				1,403,030					434,815					
1916				1,252,538					516,674					
1917				805,609					399,469					
1918				512,458					369,499					
1919				361,000					347,000					
1920				379,000					232,000					
1921				250,000					254,000					
1922				125,000					191,000					
1923				157,000					204,000					
1924				166,000					213,000					
1925				185,000					278,000					
1926				207,000					342,000					
1927				467,000					299,000	[B]7,710				
1928				358,000					250,000	[B]4,100				
1929			[B]2,837	245,000					515,000					
1930			[B]88	161,000					495,000					
1931				109,000					169,000					
1932				63,000				[F]152,000	180,000					
1933				50,000				[F]215,000	185,000					
1934				65,000				[F]254,000	190,000		[B]20,412			[B]48,362
1935			[B]34,395	80,000				[F]491,000	195,000		[B]216,700	[B]85,974		2,205,000
1936			227,000	[B]70,000				[F]554,000	200,000		[B]51,000	[B]322,000		5,773,000
1937			674,000	[B]61,000		[B]5,000		[F]2,765,000	231,000	[B]1,000	[B]2,000	[B]608,000	453,000	5,088,000
1938[B]	14,853		524,120	61,630		8,873		6,959,104	542,596	4,449	1,250	838,761	982,948	3,156,044
1939[B]	36,649		224,987	64,895	4,120	10,897	1,001,541	7,681,919	409,129	10,538	183	591,834	1,118,371	2,194,180
1940[B] (6 mos.)	35,650	4,500	156,250	54,020		3,535	1,830,000	[F]2,800,000	122,750	15,300		465,650	634,000	979,400
Total	87,152	4,500	1,843,677	8,299,556	4,120	28,305	2,831,541	21,872,023	47,078,256	43,097	291,545	2,912,219	3,188,319	19,443,986

YEAR	Golden Meadows La Fourche Parish	Grand Bay Plaquemines Parish	Grand Lake Cameron Parish	Gueydan Vermilion Parish	Gueydan, West Vermilion Parish	Hackberry, East Cameron Parish	Hackberry, Old Cameron Parish	Happy-town St. Martin Parish	Hester (Convent-Vacherie) St. James Parish	Horse Shoe Bayou St. Mary Parish	Houma, South Terrebonne Parish	Iowa Calcasieu Parish	Jeanerette St. Mary Parish	Jefferson Island Iberia Parish
1904														
1905														
1906														
1907														
1908														
1909														
1910														
1911														
1912														
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1918														
1919														
1920														
1921														
1922														
1923														
1924														
1925														
1926														
1927						[B]41,925								
1928						[B]627,272	[B]5,400							
1929						[B]838,099	[B]806,564							
1930						[B]610,703	[B]426,543							
1931						[B]1,394,871	[B]255,995					[B]34,265		
1932				195,000		[B]2,055,539	[B]198,375					489,000		
1933				165,000		[B]1,771,407	[B]212,848					3,396,000		
1934				110,000		[B]1,728,788	[B]193,057					5,300,000		
1935				82,000		[B]2,425,928	[B]165,735					7,363,000	[B]2,814	
1936				58,000		[B]2,197,000	[B]189,000					6,626,000	985,000	
1937				99,000		[B]3,247,000	[B]1,379,000			[B]75,000		6,383,000	2,277,000	
1938[B]	1,320	52,861		160,742	29,836	2,481,958	1,272,803		16,942	228,443	15,152	5,614,942	2,489,420	25,859
1939[B]	747,499	495,200	151,027	149,381	122,477	1,942,203	1,273,935	13,828	22,999	284,879	144,678	4,381,157	1,775,538	149,492
1940[B] (6 mos.)	1,802,500	383,550	361,200	76,605	118,050	[E]894,550	[E]711,750	57,650	13,050	204,150	100,925	[E]1,908,650	[E]657,100	155,300
Total	2,551,319	931,611	512,227	1,095,728	270,363	22,257,243	7,091,005	71,478	52,991	792,472	260,755	41,496,014	8,186,872	330,651

Mineral Resources

Figures on Hackberry Field, including East and Old Hackberry, shown separately below, based on Oil Company Records.

Year	Bbls. Prod.
1927	42,000
1928	1,149,000
1929	1,783,000
1930	1,213,000
1931	1,399,000
1932	2,149,000
1933	1,938,000
1934	1,911,000
1935	2,580,000
1936	3,125,000
1937	4,592,000

See footnotes on page 76.

You don't make money DRILLING for oil...

★ When you come right down to it, the twenty-five or [illegible] thousand—or more—that you put out drilling an oil we[ll] purely and simply an expense.

The only way you'll ever get it back and make a profit for yourself—is on *production* . . . and other things being equal, the operator who can keep his wells producing *the longest* —with the least repair expense—is the one who comes out on top.

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It's the cheapest—and best—insurance you can buy to safeguard the producing life of your wells!

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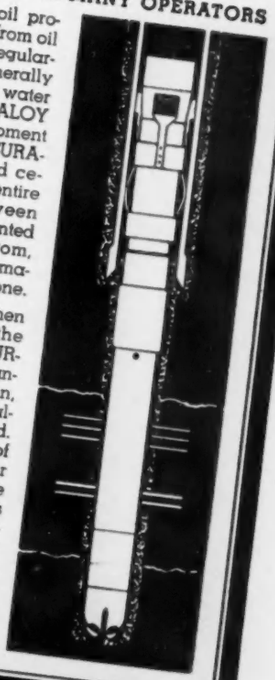
The cemented liner is then perforated opposite the known pay zones. SECURALOY offers a big advantage in this application, because they are not always clearly defined. Should the perforating of an unsuspected gas or water zone jeopardize the well—and shut-off efforts prove unsuccessful, the entire liner and cement can be drilled up, a new one set, and the perforations relocated, thus protecting the well against unpredictable emergencies.



Security products are described in the Composite Catalog, Drilling Equipment Directory, and Producing Equipment Directory.

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sive tables accompanying this discussion, the total proven acreage on the entire Texas-Louisiana Gulf Coast was 199,700 acres at July 1, 1940. In the Texas district 152,765 acres were proven, with 118,245 acres developed by 9626 wells. Of these wells 5243 were flowing under reservoir pressure, affording an example of the benefits of stringent regulation in a 40-year-old producing area. In the Louisiana sector 22,260 acres were proven but undrilled, with 24,654 acres drilled. This acreage was produced from 2238 wells, of which 1471 wells were flowing naturally.

Deep Drilling

South Louisiana operations, universally the world's deepest for the past four years, continued in 1940 to increase in average depth. Mean depth for the 516 completions in the first half of 1940 was 6820 feet, 425 feet greater than the average for entire 1939, and 1000 feet greater than the average of 1936. While no depth or producing records, either for the nation or the sector itself, have been broken in South Louisiana since 1938, an accompanying table shows the increasing success of deeper development in both divisions. The increae in average depth in South Louisiana was made despite considerable drilling to profitable shallow sands such as

Louisiana Gulf Coast Crude Oil Production—(Cont'd)

YEAR	Jennings, South Jefferson Davis Parish	Kennilworth St. Bernard Parish	La Fitte Jefferson Parish	La Fourche Crossing La Fourche Parish	Lake Barre Terrebonne Parish	Lake Hermitage Plaquemines Parish	Lake Long La Fourche Parish	Lake Mongoulois St. Martin Parish	Lake Pelto Terrebonne Parish	Lake Verret, West St. Martin Parish	Lake Washington Plaquemines Parish	La Pice St. James Parish	La Place St. John the Baptist Parish	Leesville La Fourche Parish
1929	.....	.....	.....	.....	46,000	.....	.....	.....	[B]31,597	.....	.....	.....	.....	.....
1930	.....	.....	.....	.....	388,000	.....	.....	.....	[B]56,290	.....	.....	.....	.....	.....
1931	.....	.....	.....	.....	1,021,000	.....	.....	.....	[B]30,346	.....	39,000	.....	.....	154,000
1932	.....	.....	.....	.....	2,722,000	.....	.....	.....	[B]20,727	.....	152,000	.....	.....	273,000
1933	.....	.....	.....	.....	3,021,000	.....	.....	.....	[B]17,432	.....	154,000	.....	.....	359,000
1934	.....	.....	.....	.....	1,894,000	[B]74	.....	.....	[B]1,258	.....	368,000	.....	.....	4,487,000
1935	.....	.....	635,000	.....	2,792,000	[B]70,850	.....	.....	[B]113,563	.....	500,000	.....	.....	5,388,000
1936	.....	.....	2,709,000	.....	2,532,000	[B]24,000	.....	.....	[B]154,000	.....	[B]433,000	.....	.....	4,679,000
1937	[B]3,000	.....	4,136,000	.....	1,368,000	[B]16,000	[B]83,000	.....	[B]314,000	.....	[B]435,000	.....	.....	2,629,000
1938[B]	6,880	.....	5,934,807	.....	661,546	9,332	275,553	.....	420,087	6,074	335,094	.....	.....	1,806,226
1939[B]	33,008	7,967	4,748,466	35,724	349,505	20,574	431,253	4,731	389,103	129,837	263,759	3,702	4,172	1,324,347
1940[B] (6 mos.)	[G]21,000	44,025	[E]2,205,850	77,495	167,250	7,880	257,925	.....	271,450	69,425	106,950	.....	.....	[E]550,750
Total	63,888	51,992	20,369,123	113,219	16,962,301	148,710	1,047,731	4,731	1,819,853	205,336	2,786,803	3,702	4,172	21,650,323

YEAR	Lirette Terrebonne Parish	Lockport Calcasieu Parish	Neale Beauregard Parish	New Iberia Iberia Parish	Paradis St. Charles Parish	Pine Prairie Evangeline Parish	Plumb Bob St. Martin Parish	Port Barre St. Landry Parish	Potash (Deep) Plaquemines Parish	Potash (Shallow) Plaquemines Parish	Quarantine Bay Plaquemines Parish	Raceland La Fourche Parish	Roanoke Jefferson Davis Parish
1912	.....	.....	.....	.....	.....	[C]	.....	.....	.....	.....	.....	.....	.....
1913	.....	.....	.....	.....	.....	[C]	.....	.....	.....	.....	.....	.....	.....
1914	.....	.....	.....	.....	.....	[C]	.....	.....	.....	.....	.....	.....	.....
1915	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1916	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1917	.....	.....	.....	24,894	.....	[C]	.....	.....	.....	.....	.....	.....	.....
1918	.....	.....	.....	9,621	.....	[C]	.....	.....	.....	.....	.....	.....	.....
1919	.....	.....	.....	[D]5,000	.....	.....	.....	.....	.....	.....	.....	.....	.....
1920	.....	.....	.....	[D]2,000	.....	.....	.....	.....	.....	.....	.....	.....	.....
1921	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1922	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1923	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1924	.....	128,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1925	.....	471,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1926	.....	1,343,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1927	.....	2,038,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1928	.....	1,445,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1929	.....	1,369,000	.....	[B]1,850	.....	.....	.....	33,000	.....	.....	.....	.....	.....
1930	.....	1,131,000	.....	[B]2,497	.....	.....	.....	970,000	.....	.....	.....	.....	.....
1931	.....	1,906,000	.....	.....	.....	.....	.....	450,000	.....	.....	.....	.....	.....
1932	.....	989,000	.....	.....	.....	.....	.....	577,000	.....	.....	.....	.....	.....
1933	.....	938,000	.....	.....	.....	.....	.....	956,000	.....	.....	.....	.....	.....
1934	.....	714,000	.....	[B]63,720	.....	.....	.....	937,000	.....	.....	.....	.....	241,000
1935	.....	655,000	.....	[B]558,637	.....	.....	.....	1,250,000	.....	.....	.....	.....	1,250,000
1936	.....	474,000	.....	2,191,000	.....	.....	.....	797,000	.....	.....	.....	.....	2,282,000
1937	[B]26,000	528,000	.....	6,231,000	.....	.....	.....	600,000	.....	.....	[B]1,000	.....	1,890,000
1938[B]	7,465	380,414	.....	5,387,424	.....	.....	.....	621,148	.....	433	262,999	255,405	1,280,872
1939[B]	6,074	377,393	.....	4,144,949	17,769	.....	20,995	672,113	126,580	.....	901,290	491,490	790,614
1940[B] (6 months)	.....	168,350	15,250	[E]1,747,100	77,525	.....	48,690	395,700	103,725	.....	691,000	184,150	323,900
Total	39,539	15,055,157	15,250	20,369,692	95,294	.....	69,685	8,258,961	230,305	433	1,856,289	931,045	8,058,386

Footnotes for Louisiana Gulf Coast Production Tables, Pages 72 to 77

[A] Small production, but no record available.

[B] From oil company records; where applied to a year, all records for the year are from oil company records. 1940 production for the first six months is estimated from the allowable reports of the Louisiana Department of Conservation, except where otherwise noted.

[C] DeGolyer and other's *Geology of Salt Dome Oil Fields* (1926) indicated total output of Pine Prairie field had been around 20,000 barrels, occurring chiefly about the years 1912-1914 and 1917-1918.

[D] New Iberia and Welsh in 1919 and 1920 estimated by dividing figure for "other fields" of Coastal Louisiana, as reported in *Mineral Resources.*

[E] 1940 production so noted is actual production as reported by the American Petroleum Institute's weekly reports.

[F] Evangeline production for the years 1932-1937 are from *Mineral Resources;* no breakdown on shallow and deep production was available and the total figure was divided to estimate the breakdown. 1940 figures are from the American Petroleum Institute and are also broken down by estimate.

those at Charenton and Anse La Butte.

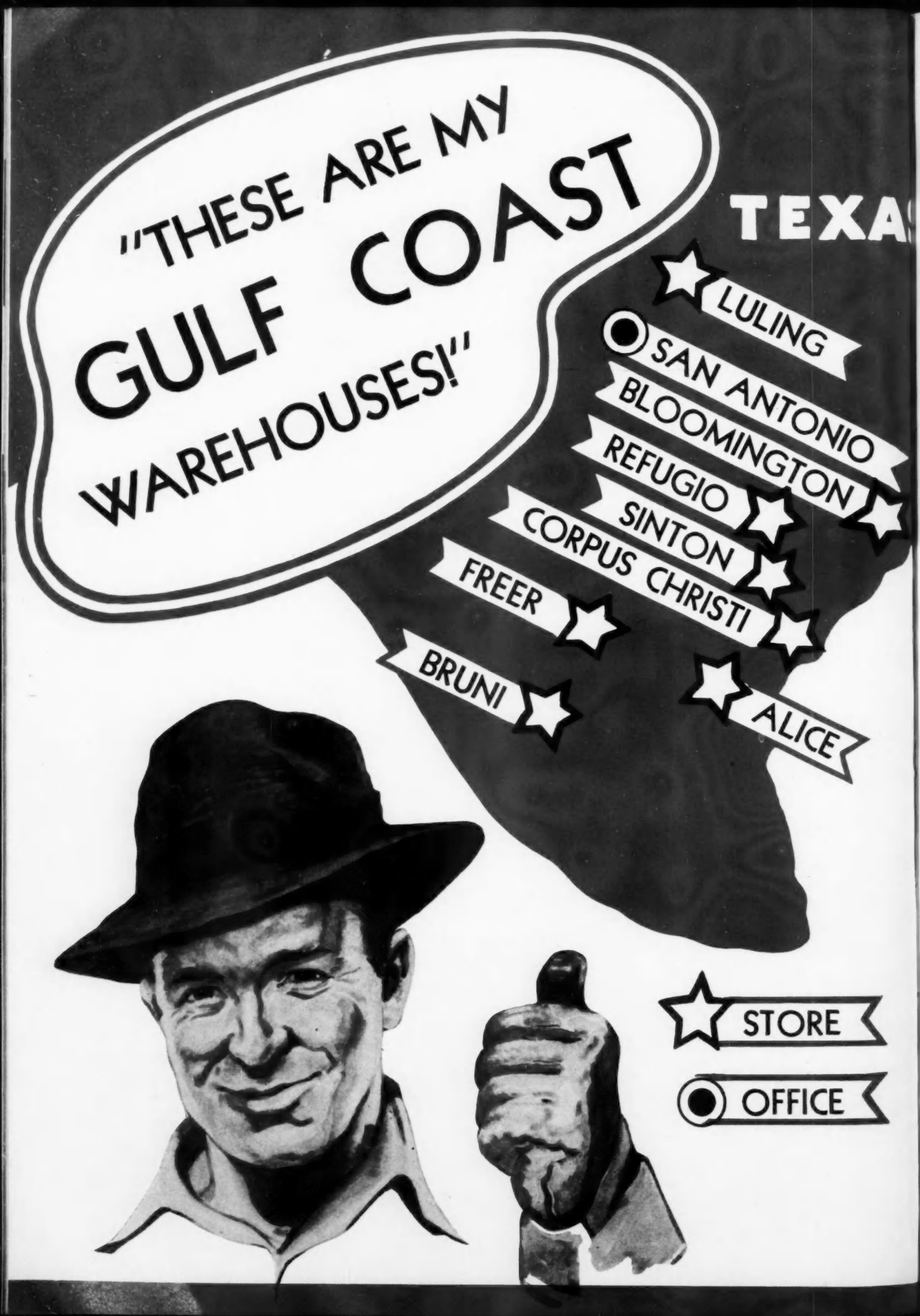
The remarkable growth of the region in the past five years is evident in the accompanying tabulation, from which it will be noted that the Gulf Coast accounted in 1939 for 16.3 percent of the nation's total, while completing 7.7 percent of the wells drilled. In the first half of 1940 the portion dropped to 15.9 percent, due in some part to the disinclination of Texas operators to explore 10,000-foot horizons, with more prospect of obtaining distillate than oil, and the certainty of operating under low allowables in event of the latter. At September 1, 1940, there were 25 fields in the Louisiana Gulf Coast with at least one productive strata below 10,000 feet. In the Texas Gulf Coast there were 3 fields of that nature. It should be noted that the Texas Coastal sector annexed the producing depth record for the state with the completion in 1940 of an 11,430-foot well at Chocolate Bayou, Brazoria County. The drilled depth record for the district itself was broken by an 11,860-foot wildcat drilled in Brazoria County in 1940. In South Louisiana deep drilling honors for 1940 went to a Chacahoula field deep test, currently drilling near 12,600 feet.

Louisiana Gulf Coast Crude Oil Production—(Cont'd)

YEAR	Roanoke, South Jefferson Davis Parish	Sorrento Ascension Parish	Starks Calcasieu Parish	St. Martinsville St. Martin Parish	Sulphur Calcasieu Parish	Sweet Lake Cameron Parish	Tepatate Acadia Parish	Tepatate, Northeast Acadia Parish	Timbalier Bay La Fourche Parish	University East Baton Rouge Parish	Valentine La Fourche Parish	Venice Plaquemines Parish
1926	.....	.....	.....	.....	[B]1,000	.....	.....	.....	.....	.....	.....	.....
1927	.....	.....	262,000	.....	[B]30,900	77,000	.....	.....	.....	.....	.....	.....
1928	.....	289,000	186,000	.....	890,000	661,000	.....	.....	.....	.....	.....	.....
1929	.....	110,000	170,000	.....	1,374,000	93,000	.....	.....	.....	.....	.....	.....
1930	.....	30,000	206,000	.....	1,362,000	193,000	.....	.....	.....	.....	.....	.....
1931	.....	53,000	260,000	.....	567,000	459,000	.....	.....	.....	.....	.....	.....
1932	.....	13,000	289,000	.....	822,000	271,000	.....	.....	.....	.....	.....	.....
1933	.....	15,000	328,000	.....	910,000	335,000	.....	.....	.....	.....	.....	.....
1934	.....	[B]10,449	262,000	.....	1,256,000	385,000	.....	.....	.....	.....	.....	.....
1935	.....	[B]36,397	195,000	[B]31,502	944,000	403,000	[B]131,764	.....	.....	.....	.....	.....
1936	.....	[B]134,000	[B]183,000	[B]303,000	1,793,000	350,000	1,465,000	.....	.....	.....	.....	.....
1937	[B]4,000	[B]70,000	[B]221,000	[B]215,000	1,414,000	294,000	2,158,000	.....	.....	.....	968,000	159,000
1938[B]	46,753	110,857	202,865	248,768	1,240,105	310,603	1,969,374	8,201	35,190	170,801	1,669,555	502,193
1939[B]	283,732	118,484	162,803	203,921	1,372,630	373,391	1,827,716	58,961	54,040	1,451,860	1,109,609	526,110
1940[B] (6 months)	216,800	43,995	90,250	82,775	[E]473,000	190,100	[E]996,350	24,775	36,875	1,765,750	470,850	362,200
Total	551,285	1,034,182	3,017,918	1,084,966	14,449,635	4,395,094	8,548,204	91,937	126,105	3,388,411	4,218,014	1,549,503

YEAR	Vermilion Bay Iberia Parish	"Ville Platte" (Shallow) Evangeline Parish	Ville Platte (Wilcox) Evangeline Parish	Vinton Calcasieu Parish	Welsh Jefferson Davis Parish	White Castle Iberville Parish	Woodlawn Jefferson Davis Parish	Total Louisiana Gulf Coast
1902	.....	.....	.....	.....	.....	.....	.....	548,617
1903	.....	.....	.....	.....	25,162	.....	.....	917,771
1904	.....	.....	.....	.....	35,892	.....	.....	2,958,958
1905	.....	.....	.....	.....	10,000	.....	.....	8,910,416
1906	.....	.....	.....	.....	23,996	.....	.....	9,074,170
1907	.....	.....	.....	.....	47,316	.....	.....	4,950,221
1908	.....	.....	.....	.....	31,555	.....	.....	5,288,937
1909	.....	.....	.....	.....	26,169	.....	.....	2,030,713
1910	.....	.....	.....	26,701	54,724	.....	.....	1,750,602
1911	.....	.....	.....	2,454,103	27,901	.....	.....	3,724,592
1912	.....	.....	.....	932,639	22,140	.....	.....	2,085,490
1913	.....	.....	.....	1,888,864	31,144	.....	.....	2,717,268
1914	.....	.....	.....	1,465,302	18,629	.....	.....	2,500,966
1915	.....	.....	.....	1,234,227	16,451	.....	.....	3,109,505
1916	.....	.....	.....	1,640,147	4,319	.....	.....	3,426,496
1917	.....	.....	.....	1,595,366	.....	.....	.....	2,830,238
1918	.....	.....	.....	1,839,083	4,540	.....	.....	2,738,201
1919	.....	.....	.....	1,592,000	[D]4,000	.....	.....	2,309,000
1920	.....	.....	.....	1,333,000	[D]1,000	.....	.....	1,947,000
1921	.....	.....	.....	1,379,000	.....	.....	.....	1,930,000
1922	.....	.....	.....	1,395,000	.....	.....	.....	1,747,000
1923	.....	.....	.....	2,071,000	.....	.....	.....	2,450,000
1924	.....	.....	.....	1,968,000	.....	.....	.....	2,487,000
1925	.....	.....	.....	2,274,000	.....	.....	.....	3,225,000
1926	.....	.....	.....	2,215,000	.....	.....	.....	4,125,000
1927	.....	.....	.....	1,786,000	.....	.....	.....	5,026,535
1928	.....	.....	.....	1,569,000	[B]1,860	.....	.....	6,507,632
1929	.....	.....	.....	1,484,000	[B]41,838	[B]16,216	.....	7,296,561
1930	.....	.....	.....	1,768,000	[B]56,714	300,000	.....	8,452,208
1931	.....	.....	.....	1,940,000	[B]6,595	329,000	.....	9,855,060
1932	.....	.....	.....	1,514,000	[B]14,327	200,000	.....	11,725,727
1933	.....	.....	.....	1,302,000	[B]14,828	192,000	.....	15,355,051
1934	.....	.....	.....	1,168,000	[B]11,147	191,000	.....	23,901,484
1935	.....	.....	.....	906,000	[B]15,603	196,000	.....	41,238,196
1936	.....	.....	.....	650,000	[B]12,000	336,000	.....	53,006,000
1937	.....	7,000	.....	470,000	[B]11,000	490,000	.....	62,036,000
1938[B]	.....	904,700	.....	436,516	9,690	591,239	188,723	66,756,760
1939[B]	54,412	3,354,208	22,636	401,939	9,222	628,587	475,618	68,270,982
1940[B] (6 months)	56,165	2,782,500	.....	207,400	5,465	342,300	393,800	39,738,600
Total	110,577	7,048,408	22,636	42,906,287	595,227	3,812,342	1,058,141	498,949,957

See Footnotes on Page 76.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A Special Insert Map of Texas and Louisiana Gulf Coast Fields and Prospects Is Included with This Issue

GULF COAST OIL FIELDS
Salt Domes and Prospects

Geological Data and Development History

Compiled by THE OIL WEEKLY Staff

Acknowledgment is made to the National Oil Scouts Association of America, to the many operators who cooperated in the compilation by making available records and checking data.

TEXAS

AUSTIN COUNTY

CAT SPRINGS*

One mi n Cat Springs, centering J. DeLeon and H&TC No. 171 surveys. **Means of Discovery:** Surface geology, Sun Oil Co., 1932. Subsequent seismograph work inconclusive; checked eltran, Kirby Petroleum Co., 1938. **Extent of Development:** Sun's Theuman 1, J. DeLeon Survey, dry in Yegua, 4734 ft, 1933, Kirby's Herring 1, 2 mi e Cat Springs, possibly between Cat Springs and Southeast Cat Springs prospects, salt water 4770-75 ft, dry at 4975 ft, 1939. **Principal Leaseholder:** Sun. **Remarks:** See Southeast Cat Springs and Millheim.

CHEEVES*

West of Brenham field, centering H. Cheeves Survey. **Means of Discovery:** Torsion balance, Sun Oil Company, 1935. **Extent of Development:** Three dry Cockfield tests. **Principal Leaseholder:** Sun.

CHESTERVILLE*

Four mi s and sw Orange Hill townsite, e of Chesterville, Colorado County, centering F. R. Moore Survey. **Means of Discovery:** Geophysical work, Gulf Oil Corp., 1935. **Extent of Development:** Undrilled. **Principal Leaseholders:** Gulf, Stanolind Oil & Gas Co., Ohio Oil Co., Sun Oil Co., Humble Oil & Refining Co. **Remarks:** Ohio checked with reflection seismograph, 1938. This structure is small, about 1½ x 1 mi, with apex 2 mi s Cottage Hill structure, to which it may be contiguous or an extension.

HOT WELLS*

Four mi s Sealy, centering where San Felipe 4 Leagues Survey is joined on south with H&TC Sections 160-61-62-81. **Means of Discovery:** Surface geology. Hot water from old well, several wildcats in area reported to have had oil showings. The Texas Co. ran refraction seismograph survey. **Extent of Development:** Several tests; two deep: Black Hawk Oil Co.'s Lancashire 1, H&TC Survey, Section 100, dry at 4250 ft, 1929; Gem Oil Co.'s Headge 1, Block 18, San Felipe Survey, dry in Cockfield at 6230 ft, 1934, checked high.

INDUSTRY*

Southwest of Industry, e of New Ulm, centering J. F. Pettus, O. S. Pettus, and A. J. Bell surveys. **Means of Discovery:** Surface geology, confirmed by several seismograph surveys. **Extent of Development:** I.T.I.O & Johnson Bros.' Wangler 1, e of New Ulm, Kuykendahl Survey, dry at 4305 ft in Cockfield, 1934. Arkansas Fuel Oil Co.'s Huedner 1, e of New Ulm, R. Stolze Survey, dry at 4005 ft, 1935. J. S. Wheelis' Knolle 1, Pettus Survey, salt water at 3625 ft in Cockfield, 1935. Temple Hargrove and H. C. Cockburn's Forester 1, A. J. Bell Survey, cored oil sand 3692 ft, 3747-55 ft, dst 3755-3800 shwd water and gas, quit at 3850 ft, 1937; Bartay 1, Stoussy Survey se New Ulm, dry at 4004 ft, 1937. Crown Central Pet. Co.'s Huedner 1, Stolz Survey, dry at 4007 ft, 1939. **Principal Leaseholders:** Shell Oil Co., 3000 acres; Humble Oil & Refining Co., Ohio Oil Co., Gulf Oil Corp. **Remarks:** See New Ulm.

KENNEY*

Five mi w Kenney, centering J. Martin, C. Benton, I. G. Belcher, B. Eaton, and J. Cooper surveys. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1934. **Extent of Development:** Several shallow wells. **Principal Leaseholders:** Superior Drilling Co., Continental Oil Co., Magnolia Pet. Co., Cities Service Oil Co. **Remarks:** Shell dropped acreage after reworking with seismograph, 1939. Continental took 9200 acres adjoining Superior block, after much effort to buy into the latter. Gem Oil Co. drilled Klump 1, s of Kenney, S. F. Austin Survey, dry at 4430 ft. Gulf Oil Corp. has 1200 acres n of Kenney.

NEW ULM*

North of New Ulm, centering Thomas Hill, J. M. Bell, Bryant Daugherty, Samuel Pettus surveys. **Means of Discovery:** Core drilling to 600-800 feet, Humble Oil & Refining Co., 1937. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble, 10,000 acres; small tracts held by Gulf Oil Corp., Woodley Pet. Co., The Texas Co., Navarro Oil Co., Sun Oil Co. **Remarks:** See Industry.

ORANGE HILL*

South and se Orange Hill, centering around Vital Flores, H&TC, Section 227, Archer surveys, and w portion San Felipe Towntract 4 League. **Means of Discovery:** Reflection seismograph, Ohio Oil Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Ohio, Sun Oil Co., Houston Oil Co., Stanolind O. & G. Co., Magnolia Pet. Co.

RACCOON BEND

Eight mi e Bellville, 7 mi sw Hempstead. **Surveys:** W. C. White, Wm. Smithers, M. R. Williams, J. P. Stephenson, T. Bell, Wm. Harvey, Chas. Donoho J. Bardsley, A. Ives, Austin County; Jared E. Groce, Waller County; also Brazos River bed. **Discovery Means:** Gas seeps, sulphur water, paraffin dirt, broken surface. **Discovery Well:** Humble-Valley Oil Corp.'s Gutoskey 2, Jan. 15, 1928, 500 bbls, 23 gravity, 3259 ft. Valley Oil Corp.'s Thompson 1, found gas, 1000 ft, but was not completed. Humble-Valley Oil Corp.'s Walton 1 was completed as a gas well at 1000 ft, Feb. 1, 1927. **Structure:** Apparently a deep-seated dome, with pronounced horst and graben faulting. **Approximate Elevation:** 150-170 ft. **Producing Formations:** Commercial gas production from 1000 ft considered top of Oakville. Main oil production from Jackson (upper Eocene), occurring in Gutoskey sand, Whitsett zone, at 3100-3307 ft, and Grawunder sand, McElroy zone, at 3400-3500 ft. In 1934 oil production established in the Cockfield, upper part Claiborne series, sands between 4012 and 4152 ft. Water level for the Cockfield at minus 3992 ft. The highest well found in the Cockfield at minus 3803 ft. The producing level is approximately 200 ft below the top of Cockfield. **Average Sand Thickness:** 26 ft. **Productive Acres:** Shallow, 1624; deep, 1470. Entirely developed. **Daily Production July 1, 1940:** 3241 bbls. **Estimated Ultimate Recovery:** 60,300,000 bbls. **Production Through June, 1940:** 21,993,700 bbls. **Indicated Remaining Reserve:** Shallow, 1,533,587 bbls; deep, 36,772,713 bbls. **Deepest Hole:** Humble's Woodley 11-X, Wm. Harvey Survey, quit at 7068 ft Feb., 1935, in Cook Mountain; had showings of oil at 7046 to 7061 ft. **Oil Outlet:** Humble Pipe Line Co., 8-in. **Gravity Oil:** 16-38; 3130-3250 ft, 23.7; 3980 ft, 34; 4100 ft, 38. **Rigs Running Sept. 1, 1940:** 2. **Principal Leaseholder:** Humble. **Remarks:** A modern pressure-maintenance system is used in producing from two of the sands. Gas is piped to Brenham, Hempstead, Prairie View and Navasota. At Steptember 1, 1940, Humble was drilling in Woodley 17-Y, important Wilcox test, at 7350 ft, and Hardy 7-Y, Saline Bayou test.

RED HILL-MILHEIM*

Six mi sw Milheim, centering in H&TC, Section 177. **Means of Discovery:** Surface geology and geophysical work by Humble Oil & Refining Co. **Extent of Development:** South of prospect Wheelis Whittenburg 1, dry at 5636, 1935, drilled on torsion balance picture. North of the prospect, Quintana Pet. Co.'s Hillboldt 1, Allen Survey, dry at 4805 ft, W. H. Mitchell's Fenner 1, Fitzgibbon Survey, dry at 4201 ft, 1937. **Principal Leaseholders:** Humble, Shell Oil Co., The Texas Co., Tide Water Associated Oil Co. Shell worked with reflection seismograph in 1938. **Remarks:** See Cat Springs and Sealy.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

Complete Index by Counties, Parishes, Fields and Prospects on Page 81

SEALY*

Four mi w of Sealy, centering M. M. Kenney, Sections 164, 178, George T. Allen, and HT&C surveys. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, 3000 acres; Tide Water Associated Oil Co., Ohio Oil Co., Sun Oil Co., Navarro Oil Co. **Remarks:** See Red Hill-Millheim prospect data.

SOUTH BELLVILLE

Three mi sw Bellville, centering in nw end Jas. Cummings Five-League Survey. **Means of Discovery:** Surface geology. **Extent of Development:** Cranfill-Reynolds Co. Lewis 1, Cummings Survey, dry at 4515 ft, 1933. Cranfill-Reynolds and Atlantic Refining Co.'s Swearingen 1, C. K. Ham Survey, dry at 4540 ft. Several tests to 4000 ft have been drilled in the vicinity, none reporting shows.

SOUTHEAST CAT SPRINGS*

Immediately se Cat Springs. **Means of Discovery:** Surface and subsurface geology, checked with eltran, 1938, Kirby Petroleum Co. **Extent of Development:** Kirby's Herring 1, 2 mi e Cat Springs, dry at 4775 ft, Cockfield sands carried water, checked normal, 1939. **Principal Leaseholder:** Kirby, 7000 acres.

WEST BELLVILLE*

Seven mi w of Bellville, centering in Stephen F. Austin, Richard Graham, and J. F. Bostick surveys. **Means of Discovery:** Gravitymeter, Gulf Oil Corp., 1939. **Extent of Development:** Undrilled. **Principal Leaseholder:** Gulf, 1200 acres. **Remarks:** Tide Water Associated worked 2500 acres adjoining on north on 90-day shooting option, dropped.

WEST CAT SPRINGS*

West central Austin County, ne Colorado County, 4 mi w Cat Springs, centering August Dietert, Louis Von Roeder surveys. **Means of Discovery:** Surface and subsurface geology, Ralph Johnstone, 1939. **Extent of Development:** Undrilled. **Principal Leaseholder:** Ralph Johnstone, 6000 acres.

BRAZORIA COUNTY

ALLEN

S. McNeel, J. G. & G. W. McNeel, T. & W. Alley and C. G. Alsberry ⅓ League surveys. On Bernard River 8 mi n of coast. **Means of Discovery:** Torsion balance, Shell Oil Co., 1925. **Discovery Well:** Shell's Allen Bernard River 1, 1927, 700 bbls 31-gr oil, 5141 ft. **Structure:** Non-piercement type dome, top cap rock 822 ft, top salt 1380 ft. **Producing Formations:** Miocene, 4346 to 5584 ft. **Average Sand Thickness:** 50 ft. **Productive Acres:** 10, developed 10. **Daily Production, July 1, 1940:** 5 bbls. **Estimated Ultimate Recovery:** 100,000 bbls. **Production Through June, 1940:** 90,259 bbls. **Indicated Remaining Reserve:** 9,741 bbls. **Deepest Hole:** Roxana (Shell) Petroleum Corp.'s Poole A-2, abnd in shale 5960 ft, 1928, in Marginulina. **Oil Outlet:** Barge down Bernard River. **Gravity Oil:** 28-41. **Rigs Running, Sept. 1, 1940:** None. **Principal Leaseholder:** Mills Bennett Production Co. **Remarks:** "mushrooming" or "overhanging" cap. **Heaving Shale:** Found under Allen & Randon tracts in Miocene. **Flank Exploration:** Titanic Oil Co. drilled Allen 1 in 1939, se flank, quitting in heaving shale at 5230 ft; same operator's Poole 1, s flank, abnd 4836 ft, 1940.

ALVIN*

West of Alvin, 6 mi se Manvel field, centering J. M. O'Donnell, Section 26, Hooper & Wade, Lot 27. **Means of Discovery:** Torsion balance, Shell Oil Co., Texas Gulf Producing Co., The Texas Co., 1935, reflection seismograph, Humble Oil & Refining Co., Pure Oil Co., 1934-35-37-38, Stanolind Oil & Gas Co., Phillips Petroleum Co., 1939. **Extent of Development:** Humble's Moore 1, Hooper & Wade Survey, Disc 5927 ft, Het 6667 ft, R/Marg 6883, F/Marg 7376 ft, Frio 7410 ft, dry at 8678 ft, no shows. **Principal Leaseholders:** Humble, Pure, Texas, Stanolind, Gulf, Texas Gulf, Magnolia Pet. Co.

ANGLETON

In J. DeValderas Survey, 1 mi sw Anchor. **Means of Discovery:** Reflection seismograph, several major companies, 1933-39; torsion balance 1933-39. The Texas Co., Sun Oil Co., Gulf Oil Corp., Pure Oil Co., and Stanolind Oil & Gas Co. prominent in exploration. **Discovery Well:** Glenn McCarthy's Carr 1, Sept. 28, 1939, 267 bbl 49-gravity oil daily, ¼-inch choke, tbg pressure 2100 lbs, csg sealed, g/o ratio 23,000/1, Frio sds 10,460-466 ft. **Structure:** Deep seated salt dome. **Average Sand Thickness:** 6 ft. **Productive Acreage:** potential, 3000, proven, 300. **Daily Production, July 1, 1940:** 755 bbl. **Estimated Ultimate Recovery:** 12,500,000 bbl. **Recovery at July 1, 1940:** 115,441 bbl. **Estimated Reserve:** 12,384,559 bbl. **Producing Formations:** Frio 10,460 ft. **Deepest Hole:** McCarthy's Neidringhaus 1, 2 mi sw Anchor, abnd 11,451 ft, 1940. **Wells at July 1, 1940:** 7. **Rigs Running July 1, 1940:** None. **Oil Outlet:** Humble Pipe Line Company. **Gravity:** 49.0. **Principal Leaseholders:** McCarthy, Humble, Tide Water, Magnolia, Sun, R. M. Welsh. **Remarks:** McCarthy drilled discovery on Humble farmout. Second deepest field in Texas. Prior to discovery Humble drilled two 10,000 foot failures.

AUSTIN BAYOU*

In Henry Austin Survey, Abs. 10, 3 mi s Danbury dome. **Means of Discovery:** Torsion balance, Rycade Oil Corp., Amerada Oil Corp., 1930. **Extent of Development:** Rycade and Amerada drilled Rapid City 1, dry with no shows at 6248 ft, 1930. Area later reworked seismograph by same interests, and condemned. NW Austin Bayou W. H. McCarthy assembled 400-acre block upon which Pat Rutherford drilled National Life Ins. Co. 1, dry at 6538 ft, show of gas in Miocene.

BAILEY'S PRAIRIE*

Southwest Angleton centering C. Smith Survey. **Means of Discovery:** Humble Oil & Refining Co., Atlantic Refining Co., Gulf Oil Corp. used reflection seismograph, 1937-38. **Extent of Development:** In July, 1940, Glenn McCarthy drilled Munson 1, S. Carter Survey, 3 mi n Liverpool, to 11,870 ft, deepest ever drilled in Texas upper coastal area, set 5½-inch casing 11,481 ft, record string for area, logged several oil and gas sands below 11,500 ft. **Principal Leaseholders:** Gulf, Skelly Oil Co., Royal Oil & Gas Co. **Remarks:** Humble attempted farmout, dropped acreage. Atlantic took acreage on option, shot, dropped. Gulf leased major portion of the block.

BONNIE*

Adjoins town of Bonnie on e, centering S. F. Austin surveys No.'s 24-25, J. W. Hall Survey. **Means of Discovery:** reflection seismograph, Barnsdall Oil Co., 1932. Humble Oil & Refining Co. 1931-35. Gulf Production Co. worked reflection seismograph and torsion balance n of this area. Stanolind Oil & Gas Co. also worked the area. **Extent of Development:** Barnsdall and Superior Oil Co.'s McCann 1, Hall Survey, dry at 6865 ft, 1933. Humble's Smith 1, Hall Survey, Abs. 69, dry at 10,007 ft, T/Frio 7169 ft. **Principal Leaseholders:** Humble, Magnolia Petroleum Co.

BRYAN MOUND**

2 mi sw Freeport, centering C. Ariola and J. W. Brougham surveys. **Means of Discovery:** Elevation, gas seepage and sulphur water; reflection seismograph, The Texas Co., 1935. **Discovery Well:** Texas' Freeport Sulphur Co. 1, 50 bbls through perforations 3425-35 ft, total depth 4544 ft, pb 3969 ft, July, 1935. **Structure:** Dome, cap rock 700 ft, salt 1136 ft. **Producing Formations:** Miocene 3425 to 3435 ft; sulphur produced from cap rock. **Average Sand Thickness:** 8 ft. **Daily Production, July 1, 1940:** None. **Estimated Ultimate Recovery:** No estimate. **Production Through June, 1940:** Discovery produced a small amount. **Deepest Hole:** The Texas Co.'s Robbins 2, 13⅜-in, 4672 ft; 9⅝-in, 6057 ft; dr to 7530 ft, 9⅝-in split, abnd Sept., 1937. **Range of Gravity:** 36.6. **Rigs Running, July 1, 1940:** None. **Principal Leaseholder:** The Texas Co. **Remarks:** Freeport Sulphur Co. mined sulphur since 1914. **Heaving Shale:** Is found under Freeport Sulphur and Robbins tracts. From 300 to 500 ft of Miocene heaving shale has been found below 4100 ft. Operators usually treat the shale with chemicals.

CEDAR LANE*

Centers around town of Cedar Lane; in Survey 47 (T. J. Jones), Tone and Jamison; adjacent to Brazoria County line. **Means of Discovery:** Torsion balance, Shell Oil Co., 1928. **Extent of Development:** Undrilled following geophysical work; surface indications; Union Sulphur Co. previously drilled Estill (Bowie) 1 to 3500 ft, and Danciger drilled Estill (Bowie) 1 to 2050 ft. John Deering's Estill 1 showed oil, gas and salt water at 6534 ft, cored salt water sand at 6560 ft and 6772 to 6788 ft, dst 6772 to 6788 ft showed salt water. Drill pipe was stuck at 6868 ft in Miocene and well was shut down. Jack Frazier took well over. Hole was side tracked at 5199 ft and redrilled to 6385 ft where it was abnd, 1937. **Remarks:** Although considered fair prospect following early geophysical work, the area did not show up so favorably in later work. The latter part of 1935, Sun Oil Co., Shell, The Texas Co., Magnolia Petroleum Co. leased acreage e of this prospect between Cedar Lane and San Bernard in Brazoria County. Stanolind Oil & Gas Co. worked with torsion balance, 1935. Magnolia, Sinclair Prairie Oil Co. took leases in sw corner J. Cummings Survey. The Texas Co. was active in this area, leasing several hundred acres. Strake Petroleum Corp. acquired around 10,000 acres in 1934.

CHENANGO*

Centering townsite of Chenango, around the J. Abbott, Wm. Harris, Wm. Parker surveys. **Means of Discovery:** Reflection seismograph, Atlatl Oil Co., 1935, Gulf Oil Corp., 1938. **Principal Leaseholders:** Gulf, H. G. Frost, Atlatl, Humble Oil & Refining Co. **Remarks:** 5000 acres assembled by H. G. Frost who assigned half interest to Atlatl and 2100 acres to Gulf.

CHOCOLATE BAYOU

Southwest of Alvin centering Perry & Austin Survey. **Means of Discovery:** Surface geology, reflection seismograph, Texas Gulf Producing Co., 1927. **Discovery Well:** Glenn McCarthy's Houston Farms 1, August 22, 1939, 25 barrels 50-gravity distillate daily, lower Frio 9860-72 ft, ⅛-in choke, tbg/csg pressure 1600/1900 lbs. **Structure:** Deep seated dome. **Average Sand Thickness:** 10 ft. **Producing Formations:** Lower Frio 9860 feet. **Productive Acreage:** Potential 1500, proven 100. **Daily Production, July 1, 1940:** 202 bbl. **Recovery at July 1, 1940:** 12,800 bbl. **Estimated Ultimate Recovery:** 7,500,000 bbl. **Estimated Reserve July 1, 1940:** 7,487,200 bbls. **Wells at July 1, 1940:** 1. **Rigs Running September 1, 1940:** 2. **Oil Outlet:** None. **Gravity:** 51.0. **Principal Leaseholders:** McCarthy, Phillips, Stanolind, Humble, Gulf, Sun. **Deepest Hole:** McCarthy's Andrau 1, 1½ mi ne discovery, 11,430 ft, May, 1940.

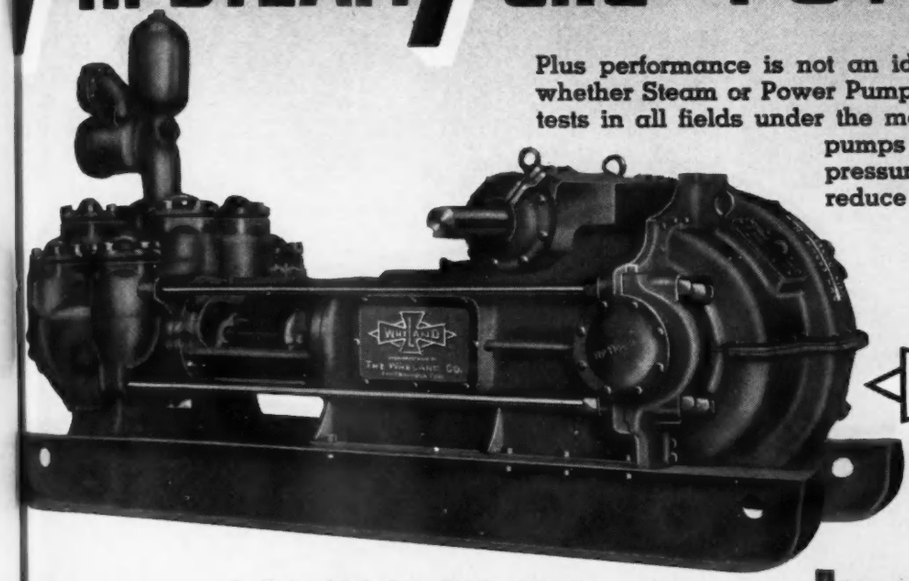
CLEMENS†

4 mi s Brazoria, R. Cummings, T. Bell, and Jno. McNeel surveys. **Means of Discovery:** Surface geology; torsion balance, Shell Oil Co., 1925. **Structure:** Salt dome. Top of cap rock 590 ft, salt 1400 ft. **Extent of Development:** Through 1935, total 15 tests, all dry. **Deepest Hole:** Roxana Petroleum Corp.'s Pabst 2-A, abnd, 1927, 6319 ft. **Principal Leaseholders:** Shell, Jefferson Lake Sulphur Co. leased sulphur rights and has sulphur plant near the dome. Old Ocean field furnishes gas for sulphur plant.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

Plus Performance in STEAM and POWER PUMPS

Plus performance is not an idle claim for Wheland-Lucey Pumps, whether Steam or Power Pumps. They have been proven by severe tests in all fields under the most trying conditions. Wheland-Lucey pumps will handle more mud and higher pressures; give smoother operation and reduce steam or power consumption.



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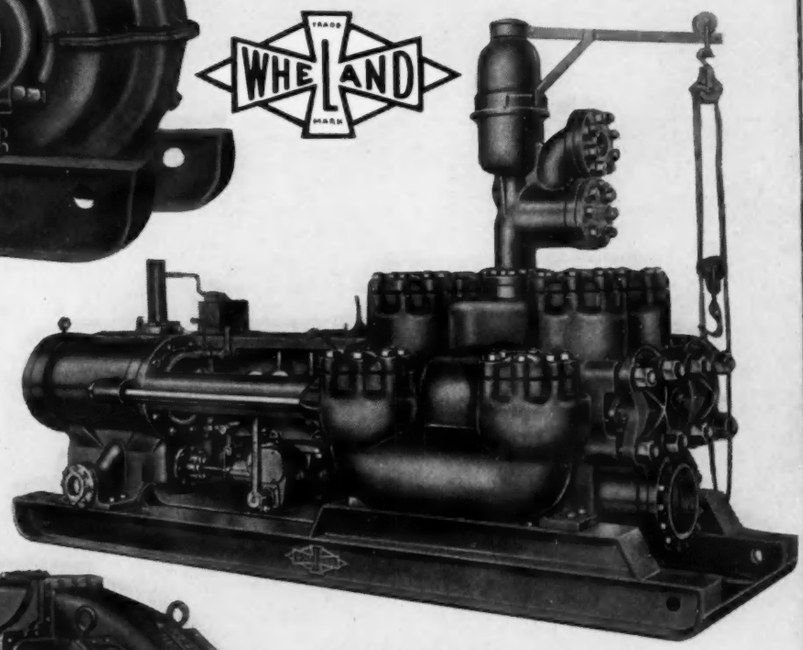

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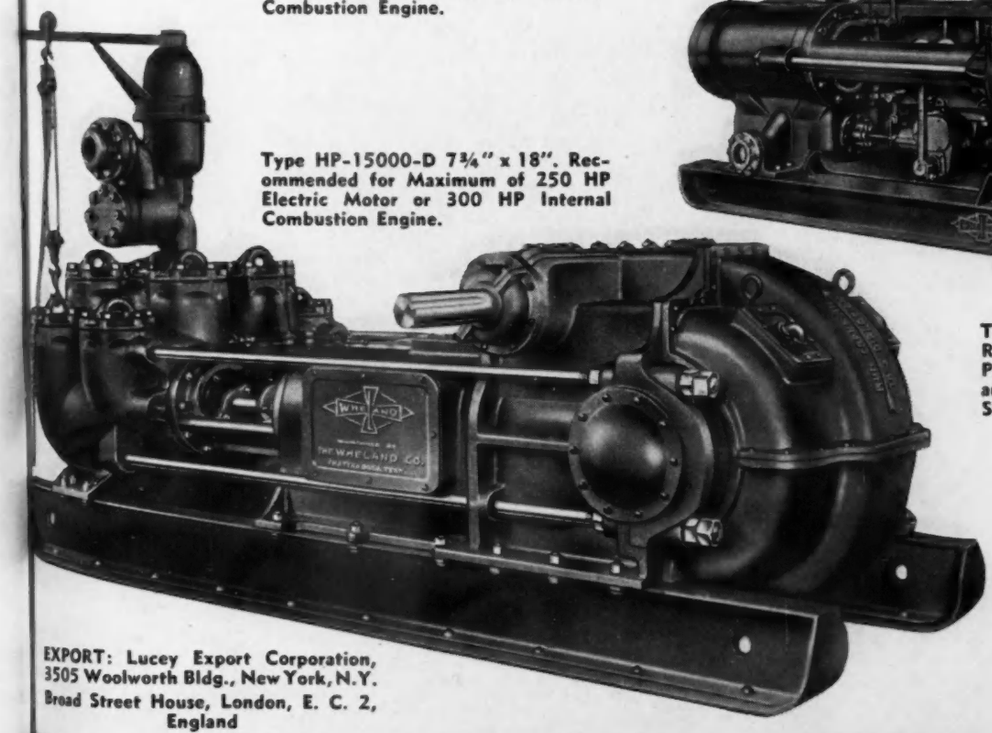

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CLUTE*

J. E. Groce Survey, 2 mi ne Clute. **Means of Discovery:** Seismograph, Rycade Oil Corp. and Vacuum Oil Co., 1930. **Extent of Development:** Rycade and Vacuum made location for Wisdom 1 in 1930, following seismograph work which suggested presence of a salt dome. The prospect was reworked by seismograph, however, and since that work failed to show a dome the locations abnd. **Remarks:** Also referred to as Lake Jackson.

DAMON MOUND

Dome is under town of Damon, Abraham Darst, Jno. P. Mills, Damon and C. P. Patton surveys. **Means of Discovery:** Elevation gas seeps, and mineral waters. **Discovery Well:** Texas Exploration Co.'s Wisdom 1, Nov. 15, 1915, 100 bbls, 1953 ft. **Structure:** Piercement type salt dome, top cap rock at surface, top salt 529 ft. **Producing Formations:** At 1406 to 3800 ft in Pliocene, Miocene, Oligocene and Lower Oligocene formations. **Average Sand Thickness:** 43 ft. **Productive Acres:** 270. **Daily Production, July 1, 1940:** 268 bbls. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through June, 1940:** 9,591,068 bbls. **Indicated Remaining Reserve:** 408,392 bbls. **Deepest Hole:** Sinclair Prairie Oil Co.'s Bryan 31-A, dry at 8112 ft in salt, Sept., 1933, top salt 3841 ft. **Oil Outlets:** Sinclair Pipe Line Co., 8-in; Humble Pipe Line Co., 4-in. **Gravity Oil:** 21-33. **Rigs Running, Sept. 1, 1940:** 1. **Principal Leaseholders:** Sinclair, H. Wisdom. **Remarks:** Sinclair owns all minerals below 1700 ft. **Heaving Shale:** Found under Cushing, Munson, Ward, Mulcahy, Jackson, Damon and other tracts. Approximately 70 ft of black Vicksburg shale is found.

DANBURY

1 mi ne of Danbury, HT&B 13 and 14, S. A. Towsey, M. Shepard, J. H. Bruner, H. Austin Leagues 5 and 6 surveys. **Means of Discovery:** Surface indications; seismograph, Shell Oil Co., 1929. **Discovery Well:** Shell's Blakely-Winston 1, HT&B 14, swabbed oil at 1579 ft, 1929; deepened to 5221 ft; pb, and in June, 1930, swabbed 50 bbls daily, 70 percent 22 gravity oil, 30% b.s. and water, from 1559-1579 ft. First commercial producer. Rowan Drilling Co. and Shell's Jamison 1, 183 bbls daily, ¼-in choke, 1970 ft, Sept. 12, 1937. **Structure:** Salt dome, topped salt 6231 ft. **Producing Formation:** Miocene sand at 1559-1579 ft, 1946-1970 ft, 1970-2025 ft, 2141 ft. Showings of oil and gas in Frio formation at 5761-81 ft, 7168 ft. **Approximate Elevation:** 19-40 ft. **Average Sand Thickness:** 12 ft. **Productive Acres:** 100; 75 developed. **Daily Production, July 1, 1940:** 319 bbls. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through June, 1940:** 336,706 bbls. **Indicated Remaining Reserve:** 663,994 bbls. **Deepest Hole:** Humble's Bassett-Blakely 3, abnd 8058 ft, Aug., 1940. **Oil Outlet:** Humble Pipe Line Co., 8-in line, runs near the field. **Gravity Oil:** 22-28. **Rigs Running, Sept. 1, 1940:** 2. **Principal Leaseholders:** Shell, Humble Oil & Refining Co., Rowan Drilling Co. **Remarks:** Production on sw flank, with Humble drilling Bassett-Blakely lease north flank Sept. 1, 1940.

DEVILS ELBOW*

3 mi e Brazoria, S. F. Austin 5½ League Survey. **Means of Discovery:** Surface indication in form of pronounced river bend and gas seeps. Also checked geophysically, and McCollum Exploration Co., using seismograph and torsion balance, reported favorably in 1928, although it did not show up definitely as a salt dome. **Extent of Development:** No drilling has been undertaken on geophysical evidence, but Croesus Oil & Gas Co. drilled Jenkins 1 to 3050 ft and Jenkins 2 to 3500 ft.

EAGLE NEST–MANOR LAKE*

South of Eagle Nest Lake, Austin Survey, 3 mi ne West Columbia Dome. **Means of Discovery:** Surface evidence (gas in water well) checked by Gulf Oil Corp. with torsion balance, 1931, and reflection seismograph in 1936-39-40. **Extent of Development:** Undrilled. **Principal Leaseholders:** K. Frost in T. K. Davis Survey, Gulf. **Remarks:** Gulf began leasing 1932, continued through 1939, assembling large block.

EAST ANGLETON*

5 mi e Angleton, centering S. F. Austin No. 2 and I. T. Tinsley surveys. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934. **Principal Leaseholders:** Humble, The Texas Co., Sinclair Prairie Oil Co., Navarro Oil Co., Gulf Oil Corp., Magnolia Petroleum Corp., successors of Cullen & West. **Remarks:** Luling Oil & Gas Co. acquired a 4500-acre block around C. Smith Survey, 2 mi sw Angleton, 5 mi e Luling block, C. E. Holt's Griffith 1, Bradley Survey, was dry at 6010 ft, 1935. The 12-mile area between Bonnie and Angleton has received the attention of nearly every large operator on the Gulf Coast. See Bonnie and Chenango prospects.

FLAG POND*

Northwest Wild Peach, between Pledger and Old Ocean fields, centering B. C. Franklin, J. Walker & Border, and Z. Phillips surveys. **Means of Discovery:** Reflection seismograph and torsion balance by many major leaseholders. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble Oil & Refining Co., The Texas Co., Sun Oil Co., Shell Oil Corp., Skelly Oil Co., Harrison & Abercrombie.

FRANCIS MOORE*

6 mi sw Alvin, centering Francis Moore Survey. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., Pure Oil Co., Humble Oil & Refining Co., Sun Oil Co., 1934-35. Most major companies operating on Gulf Coast have worked the Alvin area in the vicinity of this prospect. Reflection picture shows a deep "high." **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble, Gulf Oil Corp., Sun, Shell Oil Co., Tide Water Associated Oil Co., Stanolind, Magnolia Petroleum Co. **Remarks:** See Chocolate Bayou and Bonnie.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

HASTINGS

5 mi n Alvin, centering A. C. H. & B. secs 1 and 2, H. & T. B. secs 17, 28, 29, 30, 35, 36, 37, and 38, Perry & Austin, Wm. Snyder, BBB&C, R. A. McGee, B. T. Masterson, Wm. Henry, S. McKissick, R. Hoppel, A. H. Jackson, H. Stevens, I&GN No. 22. **Means of Discovery:** Torsion balance, spring of 1934, Stanolind Oil & Gas Co. Later checked by seismograph reflection by the same company. Standard Oil Co. of Kansas reflection seismograph, 1934. **Discovery Well:** Stanolind's J. W. Surface 1, 120 bbls 38 gr oil, 3,000,000 cu ft gas daily, Dec. 23, 1934. Sands from 5975 to 5985 ft. Later carried to 6003 ft, came in for 240 bbls daily. Due to mechanical difficulties the well was carried down to 6154 ft and tested salt water. It was finally completed at 6118 ft for an oil producer, May, 1935. **Structure:** Non-piercement type salt dome with a considerable amount of faulting. **Approximate Elevation:** 32-55 ft. **Producing Formations:** Lower Marginulina-Frio sands at 5157-6140 ft. Gas sand, 2930 ft. **Average Sand Thickness:** Field divided into 2 parts by graben. West side has maximum section 1040 ft, average 300 ft. East side has maximum section 200 ft, average 100 ft. West side has no gas cap; east side has gas cap and 2900 ft Miocene gas sand. **Productive Acres:** 5840; 5640 developed. **Daily Production, July 1, 1940:** 11,985 bbls. **Estimated Ultimate Recovery:** 360,000,000 bbls. **Production Through June, 1940:** 25,026,974 bbls. **Indicated Remaining Reserve:** 339,-973,026 bbls. **Deepest Hole:** Stanolind's Sneed 4, dry in Vicksburg at 8793 ft, Dec., 1935. 5½-in from 5800 to 6100 ft. **Wells at July 1, 1940:** 685. **Oil Outlets:** Stanolind Pipe Line Co., 6-in looped line, ties into main 12-in trunk line to Texas City to Pan American refinery. Capacity of 6-in line, 25,000 bbls daily. Pan American Pipe Line Co.'s 8-in welded line to Texas City. Capacity 20,000 bbls. **Gravity Oil:** All sands show 30 to 33 gravity oil. **Rigs Running, Sept. 1, 1940:** 1. **Principal Leaseholders:** Stanolind, Humble, Navarro Oil Co. **Remarks:** Water level was found in the discovery well at 6154 ft but later established at 6140 ft. Hastings has one of the thickest sand bodies of any field in the Gulf Coast. The field was originally allowed one well to 10-acre spacing but Showers and Moncrief showed that two different sands existed on the northwest side and was allowed to drill twin wells on 10-acre tracts.

HOSKINS MOUND**

8 mi se Danbury, centering H. Austin and J. J. Calvington surveys. **Means of Discovery:** Surface elevation, gas seeps, sulphur water. **Discovery Well:** Mound Oil Co., 1904, yielded gas 585 ft. **Structure:** Salt dome, top cap rock 623 ft, top salt 1150 ft. **Producing Formations:** Oil from sands 600 ft, sulphur from cap rock. **Productive Area:** 5-10 acres. **Production Through August, 1940:** 32,000 bbls. **Daily Production at Sept. 1, 1940:** None. Field abnd 1907. **Range of Gravity:** 21.5 degrees. **Rigs Running Sept. 1, 1940:** None. **Remarks:** Mound Oil Co. drilled 14 wells 1904-1907. Commercial sulphur production was started in May, 1925, by Freeport Sulphur Co. on leases in which The Texas Co. owns an interest; the field continues strictly a sulphur field. Deep oil production possibilities never disproved.

IOWA COLONY*

Centering common corner H. Stevens, J. S. Talmage, H&TB 291, and H&TB 281 Surveys. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., Atlantic Refining Co., Superior Oil Co., 1937. **Extent of Development:** Normandie Oil Co.'s Ramsey 1, H&TB Sec. 69, Frio 6405 ft, dry at 6911 ft. Rowan Drilling Co.'s Johnson 1, J. S. Talmage Survey A-561, dry, 1938. Humble's Tuttle 1, H&TB Sec. 67, near apex of structure, dry 8221 ft in Vicksburg, Frio 5948 ft, revealing large fault. Housh & Thompson and Continental Oil Co.'s Allen 1, K. R. Ehrman Survey, Abs. 460, e of town, Disc 5168 ft, Het 5475 ft, R Marg 5687 ft, Frio 5846 ft, dry at 7012, no shows. Rowan Drilling Co.'s Vilven 1, H&TB 68, Disc 5235, Het 5691 ft, R/Marg 5725, F/Marg 5800 ft, dry at 6517 ft, 1939. **Principal Leaseholders:** Humble, Continental, Rowan. **Remarks:** Several majors dropped acreage in 1939.

JULIFFE*

West of Juliffe, centering Francis Bingham, Wm. Pettus Surveys. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., Humble Oil & Refining Co., 1936. **Extent of Development:** Gulf's Brown 1, Pettus Survey, attempted blowout 8370-80 ft, set 7-inch casing 8358 ft, dr to 8500 sh, abnd, 1940. Hamman Explo. Co.'s Darrington State Farm 1, drilled to 9102 ft, dst 8300 rec 120 bbls 39-gravity oil in 12 hrs, wkg press 1200 lbs, well died and was abnd because of mechanical difficulties, 1939. Mayo & Frazier drilled Darrington State Farm 2, 2000 ft w Hamman well, cored oil sds 6258-6335 ft, several sds gas odor, salt 6335 ft, S/Disc 5477 ft, Epon 5569 ft, L/Disc 5693 ft, R/Marg 5995 ft, Frio 6263 ft, abnd 9150. **Principal Leaseholders:** Humble, Gulf, Shell Oil Co.

LOCHRIDGE

Near Lochridge, centering around J. W. Hall and Thos. Alsberry surveys. **Means of Discovery:** Torsion balance, first by Gulf Oil Corp., 1929; later by Quintana Pet. Co., and Humble Oil & Refining Co. **Discovery Well:** Gulf's Wilkes & Smith 2-A, Nov. 9, 1936, 18 bbls per hour, 3/16-in choke, 26.9 gr oil, TP 1175 lbs, CP 1700 lbs, 6366 ft. **Structure:** Probably deep seated faulted dome. No salt to 9227 ft. **Approximate Elevation:** 50 to 60 ft. **Producing Formations:** Frio and Oligocene at 6309 to 6387 ft. Large gas cap covering closure on NW side NE-SW fault. **Average Sand Thickness:** 10-20 ft. Gas/oil contact 6296 ft, oil/water contact 6325 ft. **Productive Acres:** 2000; 1600 developed. **Daily Production, July 1, 1940:** 1918 bbls. **Estimated Ultimate Recovery:** 24,000,000 bbls. **Production Through June, 1940:** 2,153,607 bbls. **Indicated Remaining Reserve:** 22,846,393 bbls. **Deepest Hole:** Gulf's Great Southern 1, w side of field, abnd 9684 ft, Jan., 1938. **Oil Outlet:** Gulf Pipe Line Co., 4-in. **Gravity Oil:** 6370 ft, 26. **Rigs Running, Sept. 1, 1940:** None. **Principal Leaseholders:** Gulf Oil Corp., Shell Petroleum Corp., Kirby Pet. Co., Dr. C. M. Luck. **Remarks:** Heaving shale is found below 7500 ft.

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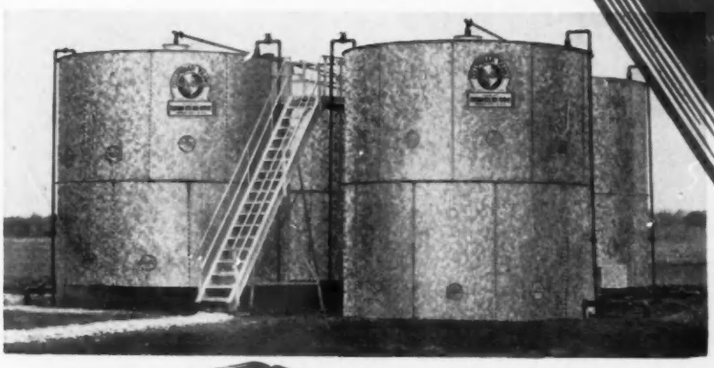

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LOCKWOOD*

Midway between Damon Mound and West Columbia domes, Wiley Martin and J. Thompson surveys. **Means of Discovery:** Geophysical methods, 1932, Gulf Oil Corp., Humble Oil & Refining Co. **Extent of Development:** Gulf's Lockwood 1, Wiley Martin Survey, abnd in salt water 7405 ft, 1933. **Principal Leaseholders:** Humble, Gulf Oil Corp., R. R. Osborne.

MANVEL

2 mi ne Manvel in E. and Harry Little, Thos. Spraggin, H. & T. B. Secs 23 and 24, A. C. H. & B. Secs 91, 92, C. O'Donnell surveys. **Means of Discovery:** Surface geology; torsion balance, The Texas Co., 1929; seismograph also confirmed a deep dome. **Discovery Well:** Texas Co.'s Belcher 1, Sept. 9, 1931, 85 bbls 28-gr oil per hour through 62/64-in choke from sand at 5463-5481 ft. **Structure:** No cap rock or salt encountered; regarded, however, as deep seated non-piercement type salt dome. **Approximate Elevation:** 54-64 ft. **Producing Formations:** Oil from Miocene at 3871-4152 ft. Gas sand at 3686 ft. From Marginulina zone of middle Oligocene at 5080-5770 ft. Deep test yielded non-commercial gas from McElroy (Jackson) at 7450-7590 ft. **Average Sand Thickness:** 50 ft. **Productive Acres:** 1800; 1750 developed. **Daily Production, July 1, 1940:** 6500 bbls. **Estimated Ultimate Recovery:** 50,000,000 bbls. **Production Through June, 1940:** 18,228,258 bbls. **Deepest Hole:** Texas Co.'s C. W. Massey 1, quit at 7957 ft in Jackson, Dec., 1934. **Oil Outlet:** The Texas Pipe Line Co., 8-in line Houston ship channel, capacity 25,000 bbls daily. **Range of Gravity:** 24-30 degrees. **Rigs Running, Sept. 1, 1940:** 2. **Principal Leaseholders:** The Texas Co. controls the majority of the acreage. Bowles & Borsodi (farmout of Pure Oil Co.), Turnbull & Irwin, Windsor Oil Co., Uscan Oil Co., Harrison & Abercrombie, Gulf Oil Corp., Sterling Oil & Refining Co., Burton Dr. Co. **Remarks:** Bowles & Borsodi's Morvel 1, n flank test, extended Marginulina production and was the discovery well for this formation on the n side of the field; came in for 18 bbls per hour from sands at 5617 to 5630 ft. One well is dr to each 10 acres. Gas/oil ratio per well is 2000 to 1. South of Manvel, O'Donnell Survey, Brown & Wheeler drilled Callahan 1 to 6517 ft, topping Disc 4792 ft, Het 5108 ft, R/Marg 5222 ft, F/Marg 5293 ft, Frio 5500 ft.

NORTHWEST SANDY POINT*

NW Sandy Point field, centering A. McFarland Survey. **Means of Discovery:** Reflection seismograph, Hamman Explo. Co., 1938. **Extent of Development:** Not definitely associated with Juliffe prospect, which see for results of tests. **Principal Leaseholder:** Hamman.

OLD OCEAN

2 mi nw of Sweeney, centering C. Breen and Chance & Polley surveys. **Means of Discovery:** Reflection seismograph, Harrison & Abercrombie, 1934. **Discovery Well:** Harrison & Abercrombie's Bernard River 1, 512 bbls, 22 pct salt water, 8651 ft, Nov. 8, 1934. **Structure:** Regarded as deep seated salt dome. **Approximate Elevation:** 30-40 ft. **Producing Formations:** Frio formation, Lower Oligocene, 8634-51 ft; 9835-54 ft; 9934-63 ft; 9990-10,137 ft; 10,263-293 ft; 10,395-401 ft; 10,415-480 ft; 10,635-670 ft. **Average Sand Thickness:** 200 ft. (Field has around 1000 ft of broken formations.) **Productive Acres:** 6000; 3900 developed. **Daily Production, July 1, 1940:** 10,428 bbls. **Estimated Ultimate Recovery:** 161,852,000 bbls. **Production Through June, 1940:** 7,944,835 bbls. **Deepest Hole:** Harrison & Abercrombie's Markle 1, dr to 11,357 ft, tstd sw, pb and comp 10,400 ft, Sept., 1939. **Casing Program:** Three strings of casing are required, which includes a conductor string set at least 1400 ft below the surface and cemented to the surface. An intermediate string 6500 ft long is required, which must be set with 250 sacks of cement. The oil string must be set with 400 sacks of cement. Another unusual regulation which is required is the installation of a 6000-lb test back-pressure valve above the kelly joint after drilling operations are begun below the intermediate string of casing. The well fittings are 10,000-lb test. **Oil Outlets:** Texas Pipe Line Co., 6-in; Harrison & Abercrombie, 6-in gas line to Clemens. **Gravity Oil:** 8630 ft, 68; 9800 to 10,670 ft, 52-55. **Rigs Running, July 1, 1940:** 3. **Principal Leaseholders:** Harrison & Abercrombie, Sun Oil Co., Mid-Continent Oil Co. **Remarks:** The deepest producing field in the Texas Gulf Coast and one of the deepest in the world. State regulations require 40-acre spacing. Wells have working pressures as high as 3600 lbs and shut-in pressures as high as 4700 lbs. In August, 1940, it was rumored that Harrison & Abercrombie had a new, deeper sand in BRLD 8, the rumor made credible by an active royalty play on southwest edge.

PEACH POINT*

Between Allen and Stratton Ridge, centering C. Hughley 1000-acre tract in S. F. Austin 7½ Leagues A-20. **Means of Discovery:** Wells drilled on surface indications had oil and gas showings. Dome verified by seismograph; detailed reflection survey, Pure Oil Co., 1935-36, soil analysis, 1938. **Extent of Development:** Humble Oil & Refining Co. and others drilled shallow wells. Pure's Slade 1, heaving shale 7842 ft, attempted blowout 7478-7530 ft, heaving shale 8161 ft, set 7-in casing, abnd 8397 ft, 1937. Pure's Smith 1, abnd 9830 ft, heaving shale, 1938. State Prison Farm 1, M. S. Caldwell Survey, abnd 6788 ft, 1938. **Principal Leaseholders:** Pure, 6000 acres, Gulf Oil Corp., Boone Brothers. **Remarks:** Heaving shale apparently has wide occurrence.

PEARLAND*

2 mi se Pearland, centering sw corner W. D. C. Hall, T. J. Green, and Hunter surveys. **Means of Discovery:** Torsion balance, 1928, Humble Oil & Refining Co., The Texas Co., Gulf Oil Corp. Torsion balance, 1933, Cullen & West. Reflection seismograph, Continental Oil Co., Magnolia Petroleum Co., 1938. Soil analysis, 1938. Reflection seismograph, British American Oil Producing Co., Atlantic Refining Co., 1939. **Extent of Development:** Westlen Petroleum Co.'s Settegast 1, dry at 6297 ft, 1934. A. Plummer's Street 1, logged sw sds in Frio, dry at 6357 ft, 1938. Well was 600 to 700 ft high structurally, with 500 ft sw sd. Sam Dunnam's Settegast 1, T. J. Green Survey, sw sd 6224 ft, dry at 6543 ft, 1938; lower than Plummer's well. Glenn McCarthy's Street 1, nw Plummer's well cored sw sds in Frio, abnd 6016 ft, 1938; well rptd high. Carrol Oil Co.'s Means 1, T. J. Green Survey, sw in Frio topped 5924 ft, abnd 7007 ft, 1938. McDannald's Hatfield 1, Lyle Survey, abnd in Vicksburg 7700 ft, March, 1940. S. E. W. Oil Corp.'s Van Werder 1, 1 mi se townsite on associate high called Mustang Mound, cd sds gas odor 3390-450 ft, abnd 6555 ft, April, 1940. **Principal Leaseholders:** Humble, Stanolind Oil & Gas Co., Magnolia, Tide Water Associated Oil Co., George Robinson, G. H. McCarthy, Shell Oil Co., A. Plummer, M. H. Christie. **Remarks:** Drilling shows structure of great relief, with considerable faulting.

PLEDGER

3 mi se Pledger, W. Carson, Grey & Moore, D. McNeel surveys. **Means of Discovery:** Reflection seismograph and torsion balance. Petty Geophysical Engineering Corp., J. P. Hunnicutt, H. H. Stevenson, Pierce Withers, 1932. **Discovery Well:** Danciger O&R Co.'s W. S. Hunt 1, Dec. 2, 1932, 200 bbls 58-gr distillate and 12 million ft gas daily through ¾-in choke from 6760-6782 ft. **Type Structure:** Evidence of salt dome by geophysics, but no cap rock or salt in tests drilled. **Approximate Elevation:** 45-65 ft. **Producing Formations:** Sands, 6580-6610 ft; 6751 to 6875 ft in Marginulina zone of middle Oligocene. On the west and sw flanks of the field, Marginulina sands found at 6567 to 6684 ft. **Average Sand Thickness:** 100 ft; porosity, 25%. **Productive Acres:** 3650. **Daily Production, July 1, 1940:** Gas. **Ultimate Recovery:** 17,068,-661. **Production Through June, 1940:** 17,000 bbls. **Deepest Hole:** Danciger's W. S. Hunt 2 went to 8061 ft in Vicksburg, was pb and completed at 6752 ft, Oct., 1933. **Outlets:** Only gas is piped out. Distillate carried out in tank cars. **Gravity Oil:** 55.8. **Rigs Running, Sept. 1, 1940:** None. **Principal Leaseholders:** Danciger (2600 acres), Humble Oil & Refining Co. **Remarks:** Indication of sub-surface "high" first found by torsion balance, Rycade Oil Corp., 1925. Rycade took leases, assigned half interest to The Texas Co., and the latter drilled four core tests 1927, dropping leases on account of their indicated negative results. Humble Oil & Refining Co. also did some core drilling in area in 1925. A gasoline absorption plant is maintained by Humble Oil & Refining Co.

POOLE RANCH*

Centering W. Eggers, W. Harding, L. E. Parker surveys. **Means of Discovery:** Reflection seismograph, Strake Pet. Corp., 1934. **Extent of Development:** Strake's Poole 1, set 9⅝-in casing 6739 ft, blew gas and hot salt water that depth, abnd 6739 ft, 1936. Strake's Sargent 1, 4000 ft sw Poole 1, set 9⅝-in casing 6751 ft, abnd 9503 ft, 1937. **Principal Leaseholder:** Strake Pet. Corp.

RATTLESNAKE MOUND*

10 mi se Liverpool, centering Alfred Swingle, L. G. Bachelor, Jno. Reed, BBB Co. surveys, extending into Chocolate Bay. **Means of Discovery:** Elevation above marsh, gas seeps, sulphur water. Several old wildcats reported oil and gas shows. Several companies worked with geophysical instruments. Cockburn Oil Corp. found evidence deep salt dome with torsion balance, 1932; later confirmed with reflection seismograph. Amerada Petroleum Corp. checked with reflection seismograph, 1936. **Structure:** Evidently deep seated dome of considerable area, possibly 15,000 acres. **Extent of Development:** Amerada's Houston Farms 1, dry at 7663 ft, gas show 6986 to 7003 ft, trouble with heaving shale, 1935. Amerada's Houston Farms 2, 1½ mi w No. 1, dry at 5701 ft, 1935. W. C. Neville et al's Houston Farms 1, Perry & Austin Survey, cored sw sds 6950 ft, 7007 ft, sw in brkn formations 3923-5823 ft, abnd 7007 ft, 1938. No activity 1939, first half 1940. **Principal Leaseholders:** Cockburn relinquished 40,000 acres Houston Farms land, under which large part of prospect lies. Amerada acquired 7000 acres this block, 6000 acres state submerged land in Chocolate Bay, West Bay, and Halls Lake. Gulf Oil Corp. took shooting option in 1936 on part of 40,000-acre block, shot, selected 5700 acres, Sun Oil Co. took shooting option 8000 acres, shot, selected 3500 acres Perry & Austin Survey, Abs 106. Phillips Petroleum Co. and The Texas Co. also hold. **Heaving Shale:** In Discorbis at 7500 ft.

ROWAN

3 mi n Liverpool, 1 mi w Rowan area. **Means of Discovery:** Refraction seismograph, The Texas Co., reflection seismograph, Sun Oil Co., Stanolind Oil & Gas Co., 1934-35. Humble Oil & Refining Co. and Pure Oil Co. have worked the general area. **Discovery Well:** Rowan & Nichols' Hubbard 1, 5 bbls, 40-gr distillate hourly, ¼-in choke, tbg/csg pressure 950/250 lbs, Frio 8538-54, Het topped 7200 ft, Marg 7500 ft, Frio 8100 ft. At Sept. 1, 1940, Rowan & Nichols were drilling Hubbard 2, confirmation test and had it in the sand, while Stanolind was waiting on rig at Hodnett 1. **Producing Formation:** Frio 8538-54 ft. **Recovery at July 1, 1940:** None, discovery well testing. **Estimated Ultimate Production:** 8,800,000 bbls. **Potentially Productive Acreage:** 2000 acres. **Principal Leaseholders:** Rowan & Nichols, Stanolind, Gulf, Sun, Mid-Tex, The Texas Co. **Remarks:** Shown as Liverpool prospect on 1938 map.

SANDY POINT

2 mi ne of Sandy Point, centering around D. Talley Survey, Abs 130. **Means of Discovery:** Reflection seismograph and torsion balance, Stanolind Oil & Gas Co., 1933-36. **Discovery Well:** Henry De Arman's Fite 1, Jan. 27, 1937, 47 bbls, 39.7-gr oil daily, from perforated csg 6489 to 6501 ft. **Type Structure:** Deep dome, but no domal material has been encountered to 8943 ft. **Approximate Elevation:** 50-70 ft. **Producing Formations:** Marginulina-Frio at 6450 to 6501 ft. **Average Sand Thickness:** 3 ft. **Productive Acres:** 1100; 200 developed. **Daily Production, July 1, 1940:** 138 bbls. **Estimated Ultimate Recovery:** 1,800,000 bbls. **Production Through June, 1940:** 225,614 bbls. **Indicated Remaining Reserve:** 1,574,386 bbls. **Deepest Hole:** Stanolind's A. A. Sharp 1, ¼ mi s of prod, dry at 8943 ft, Nov., 1938. **Wells July 1, 1940:** 3. **Oil Outlet:** Sinclair Prairie Pipe Line Co., 4-in. **Gravity Oil:** Maximum 48, minimum 40, average 41. **Rigs Running, Sept. 1, 1940:** None. **Principal Leaseholders:** Stanolind, Henry De Arman, Florence Inv. Co. **Remarks:** Discovery came in making gas and distillate through a ¼-in choke with tubing pressure 2100 lbs and casing pressure 850 lbs.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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BOILER DEVELOPMENT		WATER			STEAM OUTPUT
H. P.	Rating	Gallons	Pounds	Percentage Capacity	Cu. Ft.
150	100%	513	4,277	22.2%	5,440
225	150%	769	6,416	33.3%	8,160
300	200%	1,026	8,555	44.4%	10,810
375	250%	1,283	10,693	55.5%	13,600
450	300%	1,539	12,832	66.6%	16,325
525	350%	1,796	14,971	77.7%	19,050

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SOUTH PEACH POINT*

South of Peach Point, centering Wm. Dobie Survey. **Means of Discovery:** Torsion balance, reflection seismograph, 1937. **Extent of Development:** Undrilled. **Principal Leaseholder:** Union Producing Co.

SOUTHWEST ALGOA*

4 mi sw Algoa, centering H&TB 6 and 7, and A. G. Reynolds surveys. **Means of Discovery:** Torsion balance, Embry & Bruner, 1934. Torsion balance and reflection seismograph used by Magnolia Petroleum Co. and Shell Oil Co., 1938-39. **Extent of Development:** Gillock Pet. Co.'s Truska 1, dry in Heterostegina 7874 ft, gas show 4200 ft, 1934. Big Creek Oil Co.'s Truska 1-B, dry in Miocene, 1935. Beaty, Bowles & Borsodie's Truska 1, e Big Creek's dry hole, set casing 6430 ft, perforated Miocene zone at 5573-92 ft, dst recovered sw, abnd 10,083 ft, 1937. This well was third to reach 10,000 ft in Texas upper coast; checking high on upper formations, but cutting a fault with considerable displacement. Wynn Crosby's Wilson 1, A. G. Reynolds Survey, logged sds 8800-9500 ft, set 7-in 9504 ft, tstd sw 9498 ft, 9430 ft, and 8842 ft, topped S/Disc 6378 ft, L/Disc 6872 ft, Het 7452 ft, Bolivina 7666 ft, R/Marg 7848 ft, F/Marg 8018 ft, abnd 10,497 ft, 1939. No activity first 7 mos 1940. **Principal Leaseholders:** The Texas Co., Salt Dome Oil Corp., Tide Water Associated Oil Co., Houston Oil Co. of Texas, Wynn Crosby Dr. Co.

STRATTON RIDGE**

7 mi se Angleton, centering the J. E. Groce, T. W. Grayson, A. Calvit, and Austin and Williams surveys. This field abnd 1933. **Means of Discovery:** Surface elevation, gas seeps, and sulphur water. **Discovery Well:** Freeport Sulphur Co.'s Dannenbaum 1, May 12, 1922, 150 bbls, 4346 ft. **Structure:** Salt dome; several false caps; top salt around 1300 ft. **Producing Formations:** Miocene sands at 4300-4500 ft. **Productive Area:** 20 acres. **Deepest Hole:** Rycade Oil Corp. and Amerada Petroleum Corp.'s Seaburn 2, abnd, 1931, 7624 ft in Marginulina. **Production Through June, 1940:** 12,214 bbls (field is abnd). **Oil Outlet:** Tank cars. **Range of Gravity:** 32.5. **Principal Leaseholders:** Rycade and Amerada jointly; Gulf Oil Corp., Empire Gas & Fuel Co., Freeport Sulphur Co. **Remarks:** In 1930, salt found at a relatively shallow depth off the east flank of the dome as previously outlined gave indication that twin domes exist or that the salt plug is a large saddle type dome. 1 mi s of production D. A. Simmons drilled Marmion 1 to 2510 ft, abnd, 1939. **Heaving Shale:** Is found under Seaburn tract around 4700 ft.

VELASCO*

East of Velasco, centering F. J. Calvit League. **Means of Discovery:** Geophysics, Gulf Oil Corp., Humble Oil & Refining Co., Magnolia Pet. Co. **Extent of Development:** Undrilled. **Principal Leaseholders:** Gulf, Humble, Magnolia.

WEST COLUMBIA

Adjoins town of West Columbia on northwest, Geo. Tennille, M. Varner, and J. H. Bell Surveys. **Means of Discovery:** Surface elevation and gas seeps. **Discovery Well:** Tyndall-Wyoming Oil Co.'s Hogg 1, Sept. 7, 1915, 6 bbls, 2900 ft. **Structure:** Piercement type dome, top cap rock 700 ft, top salt 800 ft. **Producing Formations:** At 354-73; 600-1300; 2661-3250; 3850-3975; 5270-5290; 4324-37, and 5494-5650 ft; 5900-5913 ft in Miocene, Oligocene, Lower Oligocene (Frio) and Vicksburg formations. **Approximate Elevation:** 35-55 ft. **Average Sand Thickness:** Unknown in older part of field, in new north flank Frio area, 100 ft. **Productive Acres:** 625; 500 developed. **Daily Production, July 1, 1940:** 5559 bbls. **Estimated Ultimate Recovery:** 101,800,000 bbls. **Production Through June, 1940:** 85,452,204 bbls. **Indicated Remaining Reserve:** 16,347,796 bbls. **Deepest Hole:** General Crude's Campbell 1, se flank, abnd Frio 6930 ft, 1938. **Oil Outlets:** Humble Pipe Line Co., 8-in; Texas Pipe Line Co., 8-in. **Gravity Oil:** Asphalt base, old production 20 minimum, 39 maximum, average 28; new prod average 28. **Rigs Running, July 1, 1940:** 5. **Principal Leaseholders:** The Texas Co., Humble Oil & Refining Co., Gulf Oil Corp., Hogg Oil Co., Frost & Dunnam, Marimar Corp., Sterling Oil & Refining Co. **Remarks:** Per acre recovery 162,000 bbls, among highest in Gulf Coast. **Heaving Shale:** Is found under the Hogg, Masterson, and Smith tracts in Miocene and Vicksburg formations. It is found from 2600 to 3300 ft and from 5165 to 5650 ft. One well penetrated over 1100 ft of heaving shale. Sterling Oil & Refining Co. discovered deep Frio oil on the northwest side in 1937 and revived drilling in this field.

WILD PEACH*

East of Old Ocean field, s of West Columbia, centering Wild Peach Subdivision in Block 19, S. F. Austin 7 1/3 Leagues. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1935. Stanolind Oil & Gas Co. worked with torsion balance. The Texas Co. has also worked. **Extent of Development:** Undrilled. No geophysical activity 1939 or first half of 1940. **Principal Leaseholder:** The Texas Co.

CHAMBERS COUNTY

ANAHUAC

6 mi e Anahuac, H. & T. C. Sections 44, 46, 47, 48, 50, 51, 52, 53, 56, 57, 58, 59, 60, 63, 64, and J. McGahey Survey. **Means of Discovery:** Torsion balance, reflection seismograph, Humble Oil & Refining Co., 1932 and 1934. Shell Oil Co., Sun Oil Co., Yount-Lee Oil Co., Pure Oil Co., Amerada Petroleum Corp. did geophysical work in the area the latter part of 1934. **Discovery Well:** Humble's A. Middleton 1, March 3, 1935, 5 bbls per hour, large gas volume, 7075 ft; later drilled to 7088 ft, came in for 11 bbls per hour 35.6 gravity oil, March 16, 1935. **Structure:** Regarded as deep seated dome, influenced by major faulting; no dome material has been encountered. Third largest field in coastal region. **Producing Formations:** Marginulina and Frio, Oligocene series; oil and gas sands from 7000 to 7145 ft, 7515-20 ft; few wells low on structure which carry salt water in Frio, sometimes have Marginulina sands from 6940-7080 ft; gas sands from 5284 to 5286 ft and 6704-48 ft and 6978 ft; water level found around 7144 ft; gas cap over Frio prod covers 4000 acres, over Marginulina, 6000 acres. **Approximate Elevation:** 20-35 ft. **Average Sand Thickness:** 60 ft net. **Productive Acres:** 6625; 6000 developed. **Daily Production, July 1, 1940:** 6668 bbls. **Estimated Ultimate Recovery:** 280,000,000 bbls. **Production Through June, 1940:** 3,141,478 bbls. **Indicated Remaining Reserve:** 266,858,522 bbls. **Deepest Hole:** Gulf Oil Corp.'s Knowles 1, cut fault, quit at 8749 ft, in Frio, Nov., 1935. **Casing Programs:** Humble, 9-in, 1030 ft; 5½- or 5-in, 7045 ft. Sun, 16-in, 90 ft; 10-in, 1350 ft; 7-in, 7040 ft. Gulf, 10-in, 2000 ft; 5- and 7-in, 7040 ft. **Oil Outlets:** Humble Pipe Line Co., 6-in oil line and 8-in gas line. Gulf Pipe Line Co., 4-in Pan-American. **Gravity Oil:** Minimum 33, maximum 38, average 34.5 degrees. **Rigs Running, Sept. 1, 1940:** 5. **Wells at July 1, 1940:** 323. **Principal Leaseholders:** Humble controls over 85 percent of the field; Sun, Gulf, Navarro. **Remarks:** The major discovery in 1935. Lord 1 discovered Marginulina sand 7046-66 ft. One well is drilled to each 20 acres and wells are 466 ft from the lease line and 933 ft apart. Allowable is based on acreage and potential with a maximum of 25 acres to any one well. No well is allowed to produce more than 2000 cu ft of gas per barrel of oil.

BARBERS HILL

Centers around town of Mont Belvieu, H. Griffith, Wm. Hodge, Wm. Bloodgood and W. D. Smith surveys. **Means of Discovery:** Pronounced mound at surface, gas seeps, paraffin dirt, and sulphur water. **Discovery Well:** Gulf Production Co.-Humble Oil & Refining Co.'s Chambers County Agricultural Association 4, April 16, 1916, 40 bbls 1571 ft. **Type Structure:** Dome, top cap rock 350 ft, salt 1000 ft. **Producing Formations:** Small production from cap rock and Pliocene-Miocene sands at 800 to 2200 ft; Miocene and Middle Oligocene sands between 3450 and 5703 ft; at 5960-6182 ft; half dozen oil wells from Frio at 6320-6690 ft; one well yielded little oil from Lower Oligocene at 7130-7296 ft. 26 producing horizons. **Average Sand Thickness:** 80-100 ft, steep dip against salt. **Productive Acres:** 570. **Daily Production, July 1, 1940:** 8997 bbls. **Estimated Ultimate Recovery:** 73,250,000 bbls. **Production Through June, 1940:** 67,254,454 bbls. **Indicated Remaining Reserve:** 7,740,546 bbls. **Deepest Hole:** Yount-Lee Oil Co.'s Chambers County Agricultural Association 4, abnd 8150 ft in McElroy, Sept., 1929. **Casing Programs:** Sun Oil Co., 24-in, 161 ft; 7-in, 4900 to 5400 ft. Texas Gulf Producing Co., 7-in, 5200 ft. Sinclair, 20-in, 60 ft; 7- or 9⅝-in, 4700 to 5545 ft. **Oil Outlets:** Humble Pipe Line Co., 8-in; Sun Pipe Line Co., 6-in; Atlantic Pipe Line Co., 6-in. **Range of Gravity:** Minimum 19, maximum 32, average 25-29 degrees, asphalt base. **Rigs Running, Sept. 1, 1940:** 1. **Principal Leaseholders:** Texas Gulf Producing Co., Mills Bennett Production Co., Humble, Gulf Oil Corp., Stanolind Oil & Gas Co., Sun Oil Co., Sinclair Prairie Oil Co., The Texas Co., Republic Production Co., McAlbert Oil Co., Superior Oil Co., Atlantic Refining Co. **Remarks:** On nearly all sides salt flares out at the top, giving a mushroom effect, and wells drill through "overhang" of the cap rock and salt, back into sedimentary formations. **Heaving Shale:** Found under Means, Woodward, Fisher, Scott, and Chambers County Agricultural Association tracts in Vicksburg, Jackson, and Frio. From 230 to 400 ft of shale has been penetrated. Top of heave around 5200 ft.

CEDAR BAYOU

West of Cotton Lake, centering around C. Smith Survey. **Discovery Means:** Reflection seismograph, Ingot and Merit Oil Co., 1937. Geophysics by other companies. **Discovery Well:** Ingot and Merit Oil Co.'s Wright 1, Dec. 20, 1937, 27 bbls, 39 gravity oil daily, ¼-in choke, from perforations at 6390 to 6392 ft. **Type Structure:** Dome. **Approximate Elevation:** 23-43 ft. **Producing Formations:** Sand showing oil in Marginulina 6390 to 6392 ft. **Productive Acres:** 20. **Daily Production, July 1, 1940:** 27 bbls. **Estimated Ultimate Recovery:** 20,000 bbls. **Production Through June, 1940:** 8818 bbls. **Indicated Remaining Reserve:** 11,182 bbls. **Deepest Hole:** Discovery well to 7515 ft. **Gravity Oil:** 39 degrees. **Rigs Running, Sept. 1, 1940:** None. **Principal Leaseholders:** Ingot and Merit Oil Co., Atlantic Refining Co., Humble Oil & Refining Co.

CEDAR POINT

1 mi offshore of Cedar Point in Galveston Bay, centering around tracts 95 and 118. **Means of Discovery:** Torsion balance, Salt Dome Oil Corp. and Standard Oil Co. of Texas, 1934 to 1936. Reflection seismograph, 1937. **Discovery Well:** Standard Oil Co. of Texas and Salt Dome Oil Corp.'s State 1, Jan. 12, 1938, 647 bbls 36.2-gr oil daily, ¼-in choke, 6030 ft. **Type Structure:** Believed to be deep seated dome but no domal material has been encountered. **Approximate Elevation:** 23 ft (derrick floor). **Producing Formations:** Miocene sands 4413 ft, Frio sands 5945 to 6010 ft. **Average Sand Thickness:** 25 ft. **Productive Acres:** 420; 300 developed. **Daily Production, July 1, 1940:** 1081 bbls. **Estimated Ultimate Recovery:** 11,200,000 bbls. **Production Through June, 1940:** 623,555 bbls. **Indicated Remaining Reserve:** 10,576,445 bbls. **Deepest Hole:** Standard of Texas' State 13-117, e side of field, abnd in Vicksburg 8507 ft, July, 1939. **Oil Outlets:** Humble Pipe Line Co., 8-in to shore, Standard of Texas and Salt Dome barge oil out. **Gravity Oil:** 36.2 degrees, 4413 ft 29.6. **Rigs Running, Sept. 1, 1940:** None. **Principal Leaseholders:** Salt Dome Oil Corp. and Standard Oil Co. of Texas, Humble Oil & Refining Co. **Remarks:** First oil field in Bay. Standard Oil Co.'s State 1-94, discovered new 4413 ft sand August, 1938.

COTTON LAKE

3 mi s of Barbers Hill, centering around the J. Townsend and Ben Winfree Survey. **Means of Discovery:** Reflection seismograph and torsion balance, Glenn H. McCarthy, Atlantic Refining Co., 1936. Geophysical work by Humble Oil & Refining Co., Salt Dome Oil Corp., Gulf Oil Corp. **Discovery Well:** Glenn H. McCarthy's Kilgore 1, Aug. 8, 1936, 118 bbls per day, ¼-in choke, 6308 ft. Gas/oil ratio was 55,000 to 1 and discovery was killed. Second test showed 206 bbls daily. **Type Structure:** Possibly deep

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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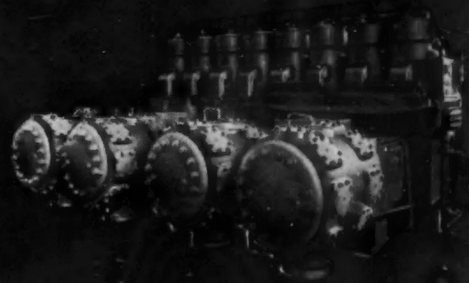

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seated faulted salt dome. **Approximate Elevation:** 35-55 ft. **Producing Formations:** Marginulina-Frio sands at 6277 to 6345 ft. Gas sand 6250 ft, salt water sand 6345 ft. **Average Sand Thickness:** 9 ft. **Productive Acres:** (All figures on acreage, production ultimate recovery, reserves, and wells embrace the South Cotton Lake field, for which other data is given under that name) 1185; 900 developed (includes South Cotton Lake). **Daily Production, July 1, 1940:** 1618 bbls. **Estimated Ultimate Recovery:** 7,000,000 bbls. **Production Through June, 1940:** 1,873,956 bbls. **Indicated Remaining Reserve:** 5,126,044 bbls. **Oil Outlet:** Sun Pipe Line Co., 4-in to Sabine Pass. **Gravity Oil:** 29.6 degrees. **Rigs Running, Sept. 1, 1940:** 1. **Principal Leaseholders:** Texas Progress Oil Co., Humble Oil & Refining Co. **Remarks:** Glenn H. McCarthy sold the major portion of this field to Texas Progress Oil Co. in 1937.

COVE*

Centering Chas. Tilron, Benj. Winfree, and W. H. Hodges Survey, 3 mi se Barbers Hill field, e of North Cotton Lake field. **Means of Discovery:** Seismograph, Pure Oil Co., 1930. **Extent of Development:** Pure's Kirby 1, Tilton Survey, dry in shale 6669 ft, 1930, os at 5920 ft. No further development until 1939 when D. Moore drilled Maley 1, Winfree Survey, a Gulf Oil Corp. farmout, abnd in Frio 6758 ft. **Principal Leaseholder:** Gulf.

DOUBLE GUM ISLAND*

5 mi e Hankamer field, F. W. Plummer Survey No. 28. **Means of Discovery:** Geophysical prospect, Yount-Lee Oil Co., 1932. **Extent of Development:** Yount-Lee Oil Co.'s Plummer 1, F. W. Plummer Survey No. 28, Chambers County, quit in shale at 9334 ft early 1933, setting a depth record for the Gulf Coast at that time. E. W. Boyt 1, 1 mi n of Plummer 1, H. & T. C. Section 17, Liberty County, abnd in lower Jackson at 9863 ft, Sept., 1933. Latter test was reported to have gas showings around 9500 ft s of the above two tests. C. B. Bunte's Simon 1, T. & N. O. Section 33, abnd at 7788 ft in Frio, Sept., 1935. **Principal Leaseholders:** Sun Oil Co., Standard Oil Co., Magnolia Pet. Co. **Remarks:** Sometimes referred to as Plummer. (See Winnie.) In 1939, Standard of Texas took 1270 acres in Sterling, T. & N. O. Sec 39 and 46 Surveys. In 1939, Sun took Broussard land in N½ T. & N. O. Sec. 47 Survey. **Heaving Shale:** Is found in Jackson formation.

FIG RIDGE

3 mi n Seabreeze field, centering T&NO No 83. **Means of Discovery:** Reflection seismograph, also gravity instruments. **Discovery Well:** Sun Oil Co.'s Smith 1, T&NO No. 83, flowed 150 bbls fluid, 6% wash water, remainder 32-gr oil, ¼-in choke 8849-53 ft, tbg/csg pressure 2500/2800 lbs, Frio-Oligocene sds 8849-53 ft, June 28, 1940. **Productive Acreage:** 1 well, potential 120 acres. **Production at July 1, 1940:** 530 bbls. **Estimated Ultimate Production:** 750,000 bbls. **Principal Leaseholder:** Sun. **Oil Outlet:** Sun. **Gravity:** 32-deg. **Remarks:** At Sept. 5, 1940, a confirmation test had not been drilled, although a test on a farmout from Marrs McLean, in T&NO No. 82 was rumored.

FISHERS REEF*

In Trinity Bay, 4 mi off shore, 7 mi ne Cedar Point, 11 mi sw Anahuac. **Means of Discovery:** Torsion balance, Salt Dome Oil Corp., several years ago. **Extent of Development:** Standard Oil Co. of Texas-Salt Dome Oil Corp.'s State 1-54, cored 30 ft saturation Hackberry zone of Lower Frio 8992-9028 ft, side-wall cores and electric log gave favorable indications number of zones 8992-9028 ft, 2 to 8 percent gas and oil by volume, dst rec sw, perf 9003-06 ft, rec sw, abnd June, 1940; State 1-66, dlg past 7500 ft, Sept. 10, 1940. Humble Oil & Refining Co.'s C-1 State, Tract 45, dlg 4000 ft, Sept. 10, 1940. **Remarks:** This prospect one of group of five gravity anomaly prospects found in some of original work with torsion balance in marine locations. Of other four prospects, Caplen, Cedar Point, and Cotton Lake are producing, while Angleton Grove has a dry hole.

JACKSON RANCH*

10 mi s Anahuac. Centering around eastern portion Jno. S. Roberts and R. Barrow surveys. **Means of Discovery:** Geophysics, Humble Oil & Refining Co., Pure Oil Co., 1929. **Extent of Development:** Mills & Jones' Gau 1, Roberts Survey, reached 5626 ft before quitting Nov., 1933. Black Gold Petroleum Co.'s Barrow 1, R. Barrow Survey, show oil 7016-20 ft, dr salt water sands 8663 ft, abnd March, 1936. A. A. Cameron's White 1, Canada Ranch area, S. Brill Survey, cored salt water sands 6447 ft, 8445-50 ft, abnd 8505 ft, April, 1938. **Principal Leaseholders:** Humble, Texas, Gulf, Sun took 4200 acres in 1939 in Douthit, Donley, Martin and S. Smith surveys. Practically all leaseholders have checked westward to and into Galveston Bay, with reflection seismograph. **Remarks:** Sometimes referred to as Double Bayou. Black Gold Petroleum Co. acquired around 3000 acres in this area in Sept., 1935. Gulf Oil Corp. has acreage in the Roberts and Johnson surveys. Adjoining the above surveys on e, Humble took a block of 10,000 acres in Brill, Trimble and Bryan surveys. This acreage was formerly held by Sun. Salt Oil Corp. has acreage in the area.

LOST LAKE

5 mi e Barbers Hill dome and 7 mi nw of Anahuac, centering E. H. R. Walls Survey. **Means of Discovery:** Gas seeps, seismograph, Pure Oil Co., 1927. Dome had been indicated previously as a minimum by Roxana Petroleum Corp., in 1925, but that company condemned the prospect after a 3700-ft test north of the dome failed. **Discovery Well:** Pure Oil Co.'s Mayes 1, March 30, 1929, gas well, 2701 ft. Mayes 2 was discovery oil well, August 1, 1929, flowing 200 bbls 23-gr oil daily at 2748-82 ft. **Type Structure:** Dome, cap rock 3272 ft, salt 5430 ft. This dome has the greatest thickness of cap rock known along the Gulf Coast. **Producing Formations:** Marginulina-Frio (lenticular) around 2700 to 2800 ft, top of salt 5430; cap rock 3275 ft (thickest cap rock on Texas coast). **Average Sand Thickness:** 33 ft. **Productive Acres:** 65. **Daily Production, July 1, 1940:** 181 bbls. **Estimated Ultimate Recovery:** 1,250,000 bbls. **Production June, 1940:** 984,282 bbls. **Indicated Remaining Reserve:** 265,768 bbls. **Deepest Hole:** Pure Oil Co.'s Lost Lake 5, abnd Feb., 1931, 7461 ft in cap rock which was logged at 5136 ft. **Oil Outlet:** Humble Pipe Line Co., 4-in. **Gravity Oil:** 2700 to 2800 ft, 23 degrees. **Rigs Running, Sept. 1, 1940:** None. **Principal Leaseholder:** Pure Oil Co.

NORTHWEST ANAHUAC*

Northwest of Anahuac, centering Luke Bryan Survey. **Means of Discovery:** Torsion balance by David B. MacDaniels, 1936 and 1937. **Extent of Development:** South Gulf Oil Corp.'s White 1, attempted drill-stem test 6805 to 6888 ft, reported oil show and salt water sand from 6788 to 6984 ft, abnd 7114 ft, June, 1935. David B. MacDaniel's Barrow 1, elevation 35 ft, topped Frio at 6974 ft, abnd 7217 ft, Aug., 1937. Hunter & Franklin's Lanz 1, T&NO, Sec. 35, dry in Frio 7629 ft, July, 1939. Well was 3 mi nw Anahuac field. **Principal Leaseholder:** David B. MacDaniels.

OYSTER BAYOU*

5 mi w High Island, Robt. Oliver Survey. **Means of Discovery:** Seismograph, Pure Oil Co. and Rycade Oil Corp., 1929. **Extent of Development:** Pure-Rycade's Jackson 1, Robert Oliver Survey, abnd Oct., 1930, 6738 ft, shale; no shows. Superior Oil Co.'s H. Jackson 1, 1½ mi to east and in Levi Barrow Survey, abnd Aug., 1930, 4382 ft, slight oil show at 3860 ft.

RED FISH REEF

In Galveston Bay, 10 mi se Cedar Point fld. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co. **Discovery Well:** Humble's State 1-A-247, dr 9125 ft, pb 9077 ft, rec sw 9060-63, rec 1 bbl distillate daily 8815-16 ft, rec 10 percent oil, 90 percent sw at 8821-25 ft, cemented tubing, cut and pulled, comp 8814-16 ft, 25 bbls 43-gr distillate daily with 1,350,000 ft gas, ¼-in choke, tp 2900 lbs, sds 8814-16 ft, August 21, 1940. **Average Sand Thickness:** Not over few feet in discovery. **Estimated Ultimate Recovery:** No estimate. **Oil Outlets:** Humble has Applied for War Dept. permit for pipe line across Houston ship channel to Cedar Point fld. **Rigs Running Sept. 1, 1940:** 3. **Principal Leaseholders:** Humble, Salt Dome Oil Corp., Standard Oil Co. of Texas, Gulf Oil Corp. **Remarks:** Humble applied for 10 drilling permits on Bay tracts before State A-1-247 was completed.

ROBINSON LAKE*

South of Robinson Lake, centering William Moore Survey. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1935. **Extent of Development:** Plymouth Oil Co. took farmout 8800 acres Jackson Ranch land, dld Wilborn 1, sw sds 6650-670 ft, abnd 9586 ft, August, 1940. Sun surrendered 7500 acres of farmout tract. **Principal Leaseholder:** Sun Oil Co.

SALT CEDARS*

13 mi s Anahuac field, centering T&NO Secs 15, 16, 17, 18 and 19. 7½ mi w and little n of High Island field. **Means of Discovery:** Torsion balance, The Texas Co., 1928. Geophysics by Humble Oil & Refining Co., 1934. **Extent of Development:** Texas Co.'s Jackson 1 abnd 5010 ft, Sept. 1930. **Principal Leaseholder:** Humble. **Remarks:** This and Oyster Bayou prospect, several mi to the southeast, are regarded by some as one. Area was worked first by Roxana Petroleum Corp. with torsion balance and then with seismograph; and by Petty Geophysical Engineering Corp. with torsion balance. The Texas Co. dropped leases after drilling above-mentioned well.

SEABREEZE-WILLOW SLOUGH

2 mi nw of Seabreeze centering around H. T. & B. Nos. 103, 102, and 118, 119, J. T. White, No. 128; A. Ybarbo T. & N. O. Sec 167 Surveys. **Discovery Means:** Reflection seismograph and torsion balance, Sun Oil Co., 1934. Magnolia Petroleum Co. and Yount-Lee Oil Co. did geophysical work in the area. **Discovery Well:** Sun Oil Co.'s Acom 1, Nov. 18, 1936, 60 bbls 50 gravity distillate daily through a ¼-in choke, and 1,000,000 cu ft of gas at 8111 to 8190 ft. **First Oil Well:** Sun's Acom 3, H. T. & B. No. 103, 644 bbls, 21 hrs, ¼-in choke, 40.5 gravity, 8415-40 ft; Nov., 1937. **Type Structure:** Probable deep-seated-faulted salt dome. **Approximate Elevation:** 10-30 ft. **Producing Formations:** Frio sands of Oligocene at 8115-40 ft; 8111-90 ft, 8415-85 ft, 8500-20 ft, 8755 ft, 8850-60 ft. **Average Sand Thickness:** In Seabreeze section, 25 ft; in Willow Slough, Frio stringers average 10 ft. **Productive Acres:** 2600; 1000 developed. **Daily Production, July 1, 1940:** 326 bbls. **Estimated Ultimate Recovery:** 18,280,000 bbls. **Production Through June, 1940:** 557,041 bbls. **Indicated Remaining Reserve:** 17,722,000 bbls. **Deepest Hole:** Sun Oil Co.'s White Estate B-1, Wm. Mays Survey, dr to 9637 ft, dry, April, 1937. **Oil Outlet:** Sun 4-in to Sun, Texas. **Gravity Oil:** 40-50 degrees. **Rigs Running, Sept. 1, 1940:** 1. **Principal Leaseholder:** Sun Oil Co. **Remarks:** Sun Oil Co.'s Acom 3 is considered the discovery well for Willow Slough field. Field has one of largest gas reserves on Texas coast. **Heaving Shale:** Is found in this field.

SMITHS POINT*

Edward Branch Survey, 15 mi s and w of Anahuac, E. T. Branch Survey, where land juts into Galveston Bay. **Means of Discovery:** Seismograph, Humble Oil & Refining Co., 1928, Gulf Oil Corp, 1939. **Extent of Development:** Housh & Thompson's Robbins 1, sw sds 8956 ft, abnd 9512 ft Frio, May, 1939. This was Sun Oil Co. farmout supported by Pure, Amerada, Gulf, Sun, Salt Dome, Navarro, Trinity, and Sinclair Prairie. **Principal Leaseholders:** Humble, Gulf, Sun Oil Co., Salt Dome Oil Corp. **Remarks:** Sun leased 2000 acres in the Craft Survey, e of Smith's Point, and worked with reflection seismograph in 1934. Humble worked with reflection seismograph in the Canada Ranch in 1935, 4 mi w of Smith's Point, Humble, Gulf and Standard of Texas hold 6250 acres centering Casey Survey.

SOUTH ANAHUAC*

Four mi s Anahuac, centering Douthit Survey. **Means of Discovery:** Reflection seismograph, Salt Dome Oil Corp., 1937. **Extent of Development:** Salt Dome's Ogden 1, Douthit Survey, was

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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accredited discovery well of gas field October, 1938, when it made 1,375,000 feet of gas, 16 bbl. 37-gravity oil daily, 9/64-inch choke, perf 7515-25 ft, Frio. **Principal Leaseholders:** Salt Dome Oil Corporation. **Remarks:** Well was shut in, lack of market, no further drilling immediate area. Humble, Sun, Gulf, and Texas own 4200 acres in area.

SOUTH COTTON LAKE

South of Cotton Lake field, centering around S. Barrow, J. Grant and Ben Wenfree surveys. **Means of Discovery:** Torsion balance and reflection seismograph, Salt Dome Oil Corp., Humble Oil & Refining Co., The Texas Co., Stanolind Oil & Gas Co. **Discovery Well:** Salt Dome Oil Corp.'s Lawrence 2, April 16, 1936, 214 bbls. 36-gr oil daily, 6454 ft. Later the well made salt water and was abnd. Lawrence 1-A, Dec. 23, 1936, 30 bbls fluid per hour, 50 percent salt water, 2,000,000 cu ft gas daily, 6538 ft, was pb to 6493 ft, made 5 to 10 bbls distillate daily, Lawrence 1-B, Feb. 2, 1937, 2½ bbls 42-gr distillate per hour, 6499 ft, Lawrence 1-C, 25 bbls of 32-gr oil per hour, March 26, 1937, from 6492 to 6503 ft. **Type Structure:** Deep seated dome. **Elevation:** 30-50 ft. **Producing Formations:** Lower Marginulina-Frio sand at 6409 to 6531 ft. **Productive Acres:** Included with Cotton Lake. **Daily Production, July 1, 1940:** Included with Cotton Lake. **Estimated Ultimate Recovery:** Included with Cotton Lake. **Production Through June, 1940:** Included with Cotton Lake. **Oil Outlet:** Sun Pipe Line Co., 4-in. **Gravity Oil:** 32-42 degrees. **Rigs Running, Sept. 1, 1940:** 1. **Principal Leaseholders:** Salt Dome, Humble, Stanolind, Gulf, J. R. Turnbull. **Remarks:** This prospect was the scene of an extensive leasing campaign with acreage and royalty selling at $175 per acre. Over a half million dollars was spent by several major oil companies. Salt Dome Oil Corp. and Gem Oil Co. acquired around 4600 acres on the west shore of Galveston Bay in September, 1935. J. R. Turnbull's Kirby 1, ¾-mi nw production, registered longest extension in Nov., 1939, flowing 10 bbl. hour from 6416-30 ft.

TURTLE BAY

Centering in and around Turtle Bay, S. Burney, Wallis, M. A. Carrol surveys. **Means of Discovery:** Reflection seismograph, torsion balance, Stanolind Oil & Gas Co., 1933, 1934, 1935; torsion balance, Salt Dome Oil Co., 1935. **Discovery Well:** Stanolind's Middleton 1, S. Burney Survey, Dec. 4, 1935, 27 bbls per hour 32-gr oil, 6626 ft. **Type Structure:** Terrace. **Producing Formations:** Lower Marginulina-Frio, 6550 to 6625 ft. No salt to 8497, water level 6620 ft. **Elevation:** 12-38 ft. **Average Sand Thickness:** 8 ft. **Productive Acres:** 900; 820 developed. **Daily Production, July 1, 1940:** 631 bbls. **Estimated Ultimate Recovery:** 10,620,000 bbls. **Production Through June, 1940:** 1,396,741 bbls. **Indicated Remaining Reserve:** 9,223,259 bbls. **Deepest Hole:** Stanolind's State 1, in field, abnd 8497 ft in Vicksburg topped at 8300 ft. Stanolind's State 1-38, mi s of field, abnd 8530 ft. **Oil Outlet:** Humble Pipe Line Co., 6-in. 85 percent, Sun 15 percent. **Gravity Oil:** 32 degrees. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Stanolind, Sun. **Remarks:** One well to 10 acres.

WINNIE*

Around Winnie, Chambers-Jefferson County line, E. Lopez, B. A. Vacco, T&NO Sections 158 and 159, J. Hogatt, J. M. Duran, F. Valmore surveys. **Means of Discovery:** Surface indications, torsion balance, Sun Oil Co., 1934. Glenn H. McCarthy, 1935. Reflection seismograph. Gulf Oil Corp., 1935. (See Hampshire, Jefferson County.) **Extent of Development:** C. B. Bunte's Simon 1, six mi w of Winnie, T&NO Sec 33, quit in salt water sand at 7788 ft, Sept., 1935, in Frio. Had 370 ft of sand which carried salt water from 7370 to 7741 ft, with a few shale breaks. Top of the salt water sand 7560 ft, and solid sand drilled to 7741 ft. McCarthy's Pitt 1, dr salt water sands in Marginulina and Frio from 7409 to 7415 ft and 7628 to 7638 ft, quit at 8006 ft, May, 1936, Leverne Decker's Johnson 1, T&NO Sec 30, dry in Frio, 7664 ft, Jan., 1937; Broussard Trust 1, H&TC Sec 30, abnd 7381 ft, April, 1938. Navarro Oil Co.'s Koch 1, Lopez Sur, abnd 8845 ft, Mar., 1939. Falcon-Seaboard's Powell 1, Vacco Sur, abnd 9264 ft, Jan., 1940. **Principal Leaseholders:** Texas Co., Gulf, Humble Oil & Refining Co., Standard of Texas, Magnolia, Sun.

FORT BEND COUNTY

ARCOLA*

Between Thompsons and Arcola, centering around the T. Barnett, David Fitzgerald, H&TB No. 69, and S. Kennedy surveys. **Means of Discovery:** Torsion balance, pendulum and reflection seismograph, Gulf Oil Corp., 1934. Atlantic Ref'g Co., reflection seismograph, 1938. **Extent of Development:** Schwab and Gem Oil Co.'s Arcola Sugar Mill 1, topped Frio 6231 ft, salt water sands 6231 to 6250 ft, abnd 6540 ft July, 1937. Research Oil Co.'s Moore 1, S. Kennedy Survey, salt water sands 5631 ft and 6530 ft, dr to 7170 ft, pb 3045 to 3080 ft, abnd October, 1937. **Principal Leaseholders:** Gulf, Sun Oil Co., Hebert & Smith, Humble Oil & Refining Co., Dick Schwab and Gem Oil Co.

BEASLEY*

Three mi w Rosenberg, Lester E. Cross Survey 20. **Means of Discovery:** torsion balance Gulf Oil Corp., 1929; indicated by Humble Oil & Refining Co., torsion balance. This proved an anomaly that did not show up through seismograph work. **Extent of Development:** Humble's Miller 1, abnd in shale, 5325 ft, 1929. Vico Oil Co.'s Darst 1, two mi w of Beasley, E. Powell Survey, quit at 6217 ft, Dec., 1934, e of Beasley, Windward Oil Co.'s Simms 1, H&TC No. 1, salt water in Frio at 4441 ft, abnd 6197 ft, Oct., 1937.

BIG CREEK

Six mi se Rosenberg, Barnabas Wickson and Michael Young surveys. **Means of Discovery:** Gas seeps and sulphur water. **Discovery Well:** Gulf Oil Corp.'s Wheat 1, May 10, 1922, 150 bbls, 580 ft. **Structure:** Piercement dome, cap rock 450 ft, salt 650 ft. **Producing Formation:** Plio-Miocene around 800 ft and Lower Oligocene (Frio) at 2669 to 4528 ft. **Approximate Elevation:** 50-70 ft. **Average Sand Thickness:** 21 ft. **Productive Acres:** 250. **Daily Production, July 1, 1940:** 5 bbls. **Estimated Ultimate Recovery:** 12,000,000 bbls. **Production Through June, 1940:** 9,835,623 bbls. **Indicated Remaining Reserve:** 2,169,377 bbls. **Deepest Hole:** Gulf's Davis 77, dr to 8273 ft, pb and test salt water 3478 ft, abnd May, 1939. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Gravity Oil:** 20-42 degrees. **Principal Leaseholders:** Gulf Oil Corp., Trans-State Oil Co., **Remarks:** Among last salt domes found before advent of geophysics. **Heaving Shale:** Found under Wheatley, Ritchter, Hausler, Davis and Moore tracts on flanks in Vicksburg formation. About 60 ft of heaving shale has been penetrated. Top of heave is logged around 3615-4100 ft. One well is dr to each 10 acres. In 1939 H. R. Cullen optioned 3000 acres Lippincott Survey south of field, worked with reflection seismograph and drilled deep dry hole.

BLUE RIDGE

Three mi se Missouri City; H. Shropshire, Thos. Habermacher, E. Drew, J. Poitevent No. 3, and Jno. Lafayette surveys. **Means of Discovery:** Elevation and gas seeps. **Discovery Well:** Gulf Oil Corp.'s Blakely C-2, April 4, 1919, 1200 bbls, 2705 ft. **Structure:** Dome, cap rock 143 ft, salt 230 ft. **Producing Formations:** Miocene and Middle Oligocene (Frio) at 1956 to 4650 ft. **Average Sand Thickness:** 50-60 ft. **Productive Acres:** 400. **Daily Production, July 1, 1940:** 814 bbls. **Estimated Ultimate Recovery:** 13,000,000 bbls. **Production Through June, 1940:** 11,231,961 bbls. **Indicated Remaining Reserve:** 1,779,039 bbls. **Deepest Hole:** Sinclair Oil & Gas Co.'s Blakely 1, abnd in salt water at 6189 ft in Vicksburg, July, 1930. **Oil Outlet:** Gulf to Lynchburg & Olean. **Range of Gravity:** 21-37.9 degrees. **Rigs Running, Sept 1, 1940:** None. **Principal Leaseholders:** Gulf, The Texas Co., Sinclair Prairie Oil Co., Navarro Oil Co., San Jacinto Oil Co., Texas Gulf Producing Co., J. S. Abercrombie, H. R. Cullen, Fort Bend Oil Co., Watts Bros., Cunningham Production Co., Moody Corp., Trans State Oil Co., Mills Bennett Production Co. **Heaving Shale:** Found under Luscher, Duff and Blakely tracts in Vicksburg and Hockleyensis. Approximately 272 to 854 feet of heaving shale have been penetrated. Top of heave is found at 4500 to 5000 ft.

FRESNO*

Near town of Fresno, C. Heywood, Thomas Gleason and M. Escarlera surveys. **Means of Discovery:** Torsion balance, Texas Co., 1930. Also others obtained favorable results with torsion balance and magnetometer. **Extent of Development:** Texas Co.'s Murdock 1, Chas. Heywood Survey, Brazoria County, abnd Jan., 1931, in sandy shale at 7556 ft, John Deering and Benedum-Trees Oil Co.'s Westenfield 1, M. Escarlera Survey, abnd Feb., 1933, in shale at 6230 ft. Fresno Petroleum Co.'s Wood 1, Thomas Gleason Survey, quit at 5082 ft, 1933. Turnbull & Irwin's Allison 1, H&TB Sec 79, quit at 6050 ft, in Frio, May, 1935. Medford & Burke's Woods 1, abnd 6512 ft, Jan., 1938. Sam E. Wilson's Wood 1, C. Heywood Survey, cored salt water sands at 4773 ft, 4812 ft, 4923 ft, 5045 ft and 6250 ft, abnd 6852 ft, August, 1938. Grisso Oil Co.'s A. Smith 1, Shipman Sur, tried to blow out 5000 ft, abnd 6026 ft, Feb., 1939.

FULSHER*

South and west of Katy, centering around A. G. Shaples Survey. **Means of Discovery:** Torsion balance, Gulf Oil Corp., 1929, Texas Co., 1934. Reflection seismograph, Texas Co., 1934, Humble Oil & Refining Co., Amerada Petroleum Corp. **Principal Leaseholders:** Humble, Texas, Amerada, Sun, Sinclair Prairie Oil Co.

HARLEM-CLODINE*

Northwest of Sugarland, and n of Richmond, centering M. M. Battle, A. Hodge, J. S. Cartwright, I&GN No. 1, Jas. Knight, S. Isaacs, White, E. P. Whithead and W. Andrews surveys. **Means of Discovery:** Surface geology indication of a dome given by Gulf Oil Corp. torsion balance in 1929; also indicated later with detailed seismograph work. Torsion balance, Turnbull & Irwin, 1934, Benedum-Trees Oil Co., Gulf, Texas Co., and J. I. Sloan, 1934. Reflection seismograph, Independent Exploration Co., 1935; Amerada Petroleum Corp., Texas Co., 1934. **Extent of Development:** Gulf, Brazos Valley Irrigation Co. 1, Jno. Frederick Survey, quit at 6065 ft, 1929; No. 2, I&GN Survey, Sec A, quit at 4617 ft, 1930. Three mi sw, in Samuel Isaacs Survey, Island Lake Oil Co.'s White 1, quit at 3300 ft. Phillips Petroleum Co.'s A. E. Holmes 1, quit in lower Jackson at 7015 ft, April, 1934. Turnbull & Irwin's Herman Hospital 1, J. S. Cartwright Survey, abnd at 6001 ft in Frio, March, 1935. Texas Gulf Producing Co.'s Winston 1, S. Isaacs Survey, quit at 7697 ft in salt water sands, Nov., 1935, in Upper Saline Bayou. Salt water sand with odor of oil from 7663 to 7675 ft. Jack Frazier & O. J. Martin's Blakley 1, F. Fredrick Survey, gas odor 7931 ft, abnd 8308 ft, July, 1939. N. W. Hunter's Settegast 1, E. P. Whithead Survey, gas show 7180 to 7220 ft, abnd 7712 ft, Aug., 1939. South of Katy R. N. Ranger's Blakley 1, T. Habermacher Sur dst 200-19 ft, sw abnd 8017 ft, Aug., 1939. **Principal Leaseholders:** Sun, Magnolia, Gulf, Phillips, C. B. Bunte, Arkansas Gas & Fuel Co.

LONG POINT—(Sulphur Field)

Six mi e Needville, H&TC Sections 10, 56, 57, 66, 67, 101, 102, 110, 111; R. L. Morris, Geo. Waters, and T. F. Pinckney surveys. **Means of Discovery:** Torsion balance, Gulf Oil Corp., 1924. **Discovery (Oil Well):** Gulf's Wolf 13, 100 bbls, 50 percent oil, 600 ft, Dec. 15, 1928. **Structure:** Salt dome. Top of cap rock 550 ft, salt 930 ft. **Producing Formations:** Sulphur produced from cap rock; oil from sands above cap rock at 600 ft, gas sand 889-97 ft, oil sand 909 ft, 993-996 ft. **Productive Area:** Only a few acres productive of oil. **Extent of Development:** Through 1935, total 75 tests, two oil, 72 dry, and one gas. Drilling mostly shallow, and largely in connection with sulphur exploration and development. Texas Gulf Sulphur Co. began sulphur mining in March, 1930. **Deepest Hole:** Superior Oil Co.'s Beard 1, H&TC No. 1, dry at 7947 ft, August, 1939. **Production Through 1935:** Only sulphur. Small oil production, involving only few barrels, not recorded. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Gulf,

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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NASH

Four mi e Damon, in H. N. Cleveland and Thos. Allsberry surveys. **Means of Discovery:** Elevation, gas seeps, and sulphur water. Dome verified by Rycade Oil Corp. by torsion balance in 1923. **Discovery Well:** Rycade's Nash 5, Jan. 2, 1926, 500 bbls, 4127 ft. **Structure:** Dome, cap rock 625 ft, salt 950 ft. **Producing Formations:** Miocene, 3700 to 4825 ft, and Lower Oligocene, 5644 to 5677 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 100; 100 developed. **Daily Production, July 1, 1940:** Abandoned 1939. **Estimated Ultimate Recovery:** 1,651,900 bbls. **Production Through June, 1940:** 1,651,900 bbls. **Indicated Remaining Reserve:** Depleted. **Deepest Hole:** Harrison & Abercrombie's Nash 15, reached 6800 ft, shale, Feb., 1932. **Range of Gravity:** 19-24 degrees. **Principal Leaseholders:** Harrison & Abercrombie. **Remarks: Heaving Shale:** Is found under Nash & Wisdom tracts in Oligocene formations at 5328 ft. About 760 ft of heaving shale has been penetrated.

NEEDVILLE*

1½ mi se of Needville, centering around P. Kulcak HT&B Sec 25, 26, 36, 63 and Robert Hodge Survey. **Means of Discovery:** Surface elevation; also later a torsion balance prospect (a very large minimum), found first by Meyer & SoRelle in 1928, and checked by other companies. Seismograph found no indications, suggesting no dome unless very deep. Humble Oil & Refining Co. and Texas Co. worked with torsion balance in 1935. Humble also worked with a magnetometer. **Structure:** One torsion balance test showed structure as fault rather than salt dome. **Extent of Development:** Several shallow tests. South Texas Exploration Co.'s Hartfield 1, H&TC 25, reported oil show at 4975 ft, good gas show at 6450 ft, oil show at 6889 ft, depth of abandonment in 1929. Winkleman 1, same section, quit at 4652 ft, 1929. Gem Oil Co.'s Farmer 1, R. Hodge Survey, quit at 6110 ft, August, 1934. Cored sand 5663 to 5830 ft with odor of oil but showed salt water. Humble's Hackasted 1, abnd 6024 ft, Sept., 1934, showed oil 4543 to 4553 ft, gas 5366 to 5386 ft. Electrical device showed gas sands 4000 to 4035 ft and 4125 to 4150 ft. Sam Harrison's V. Horak 1, salt water sands 4769 to 5346 ft in Frio, quit at 7025 ft in Vicksburg, Dec., 1936. Marlen Oil Co.'s F. Jurea 1, H&TC 26, salt water sands 5154 to 5204 ft, dr to 6523 ft, last 3 ft dr like sand, well blew out, abnd 6523 ft, June, 1937. Humble's Schulze 1, abnd 4834 ft, Sept., 1937. H. C. Adams et al's Sury 1, P. Kulcak survey, dry at 6510 ft, August, 1938. Woodland Oil Co.'s Berg 1, H&TC 25, gas sand 4656-65 ft, oil odor 6330-35 ft, 7091-99 gas sand, abnd 7834 ft, Sept., 1939. Rowan Dr. Co.'s Link & Mayo's Foss 1, H&TC 63, sw, sd 6399-412, abnd 6528 ft, 1939. W. L. Goldston's Kulcak 1, abnd 5375 ft, May, 1940; Hackstedt 1, abnd 5326 ft, April, 1940. **Heaving Shale:** Is found under V. Horak lease. **Principal Leaseholders:** Humble, Shell, Gulf, Superior, Stanolind.

NORTH ROSENBERG*

3 mi n of Rosenberg, centering in J. Foster Survey. **Means of Discovery:** Torsion balance and reflection seismograph, Texas Co., 1935, 1936. **Extent of Development:** Texas Co.'s Sugarland 1, dry in Frio, 5160 ft, July, 1936. R. M. Ranger's Sugarland Industries 1, J. Foster sur, dst 7700 ft, showed gas, abnd 8010 ft, Jan., 1940. **Remarks:** See Harlem-Clodine prospect.

ORCHARD

1 mi s town Orchard; James Frazier, L. Burknap, Mark Smith, German Emigration Co., David Scott surveys. **Means of Discovery:** Refraction seismograph, Gulf Oil Corp., 1924. **Discovery Well:** Gulf's Moore 5, Jan. 18, 1926, flowed 2000 bbls 34.5-gr oil daily at 3702 ft. **Structure:** Shallow dome, cap rock 285 ft, salt 375 ft. **Producing Formations:** Miocene 1265 to 1315 ft. Heterostegina and Frio 2685 to 4150 ft, little production from cap rock; Yegua at 6675 to 7000 ft, 7343 to 7355 ft, 7693-7717 ft, 7892 ft and at 7975 ft. **Average Sand Thickness:** 25 ft. **Productive Acres:** 160. **Daily Production, July 1, 1940:** 155 bbls. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through June, 1940:** 3,686,057 bbls. **Indicated Remaining Reserve:** 1,319,943 bbls. **Deepest Hole:** Gulf Oil Corp.'s Moore 53, dr to 10,085 ft, Dec., 1937, pb and tested; penetrated 2585 ft into Cook Mtn topped 7500 ft. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 22-51.5 degrees. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Gulf Oil Corp., controls dome through leases on Moore land. **Remarks:** First seismograph discovery on Gulf Coast. Seismograph work done for Gulf by "Seismos" G.m.b.H., Hannover, Germany, directed by Dr. L. Mintrop. **Heaving Shale:** Is found under Moore tracts in Oligocene around 5590 ft. About 426 feet of the formation has been penetrated.

PILANT LAKE*

3 mi s Rabb Ridge field, adjacent Pilant Lake, Wm. Barrett and Abner Harris surveys. **Means of Discovery:** Surface evidence, shallow gas shows Pure Oil Co. torsion balance in 1929 gave promise. Seismograph did not indicate a dome **Extent of Development:** Pure's Brown 1, quit at 4510 ft, 1930. Jas. P. O'Hara's Brown 1 quit at 4572 ft, 1932. Lowrie & Young et al's Brown 1 quit at 5832 ft, 1933. Thompson Drilling Co.'s Brown 1, Geo. Menefee Survey, dry at 6035 ft in Heterostegina, Oct., 1935. Sloan and Zook et al's Brown 1, dr salt water sands in Frio, dry 6510 ft, Dec., 1936; was higher than normal. Frazier's Baker 1, Barrett & Harris Survey, abnd 6517 ft, 1938. Kennelly & Hendee's Boyd 1, dry at 1503 ft., Jan., 1939.

RICHMOND*

4 mi e Richmond, Joseph Kukendall Survey. **Means of Discovery:** Geophysics, Grayburg Oil Co., 1929. Reflection seismograph, Humble Oil & Refining Co., 1937. **Extent of Development:** Grayburg's Ranson 1, abnd 4335 ft, 1929. Royal's Bertrand 1, Wilkens Survey, sw sd 4803 ft, abnd Frio 6504 ft, May, 1939. **Principal Leaseholder:** Humble. **Remarks:** See Beasley.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

ROSENBERG

South of Rosenberg, centering E. Meyers Survey. **Means of Discovery:** Reflection seismograph, H. C. Cockburn, 1938. Magnolia Petroleum Co. also worked area, as did Humble Oil & Refining Co. **Structure:** Deep seated salt dome. **Discovery Well:** Cockburn's Dzierzianowski 1, flowed 81 bbls 55-gr distillate daily through drill pipe, tbg/csg pressure 1325-1350 lbs, Sept. 22, 1939. **Producing Formation:** Cockfield 7743 ft. **Deepest Hole:** Discovery well. **Productive Acreage:** 800, 50 developed. **Daily Production at July 1, 1940:** Gas. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Cumulative Production at July 1, 1940:** 6000 bbls. **Estimated Reserve:** 994,000 bbls. **Wells at July 1, 1940:** 2. **Principal Leaseholders:** H. C. Cockburn, Jack Frazier, Magnolia, The Texas Co.

SIMOMTON*

South of Simomton centering around the Thos. Westhall Survey. **Means of Discovery:** Geophysics. **Extent of Development:** W. S. Boyle's Spencer 1, showed porosity and resistivity on electrical survey from 3540 to 3555 ft; 3565 to 3575 ft; 5622 to 5718 ft, dry at 7013 ft, April, 1938. Humble detailed 3000 acre block seismograph and released, south of Simomton and 2½ mi n Orchard field Titanic Oil Co. staked Mazola 1, 8000 ft test. **Principal Leaseholders:** Magnolia, Rycade, Showers & Moncrief, R. C. Holmes.

SMITHERS LAKE*

3 mi w Thompsons, in L. Smither, Edward Jeffrey, Henry Jones surveys, adjacent to Smithers Lake. **Means of Discovery:** Gas seepages and topography. Work was done about 1928 with both seismograph and torsion balance, casting doubt on importance of prospect. Stanolind Oil & Gas Co. and Atlantic Oil Producing Co. worked with torsion balance and seismograph in 1935. Continental Oil Co. also worked in area. **Extent of Development:** Bunte Oil & Gas Co.'s George 1, J. Jones Survey, quit in Marginulina, salt water sand, 6010 ft, Nov., 1935. Salt water sand from 5455 to 5459 ft. John Byer's Lockwood-Sharp 1, dry 6520 ft, June, 1937. Superior's George 1, Martin sur, abnd 8010 ft, 1939; George 2 abnd 9574 ft, May, 1940. **Principal Leaseholders:** Superior, Deep Rock.

SOUTH FRESNO*

West of Manvel field, centering around J. W. Maxey H&TB Secs 67 and 69, 1½GN Sec 1, on the Fort Bend-Brazoria County line. **Means of Discovery:** Reflection seismograph Texas Co., 1934. Stanolind Oil & Gas Co., Gulf Oil Corp., Humble Oil & Refining Co., Independent Exploration Co., Continental Oil Co., Atlantic Refining Co., and Hammond Exploration Co. did geophysical work in the area. **Extent of Development:** Six mi s of this prospect, Turnbull & Irwin's Braden 1 was dry at 6857 ft, in salt water sand, Oct., 1934. West of Iowa Colony, Normandie's M. B. Ramsey 1, H&TB Sur No. 69, cored salt water sands in Frio from 6891 to 6911 ft, abnd at 6911 ft, Oct., 1938. Humble's Tuttle 1, H&TB No. 67, one mi se of Normandie's dry hole was 375 ft high on "Het," cored salt water sands at 5954-59 ft in Frio, dr to 8221 ft, abnd Nov., 1938. Housh & Thompsons' Allen 1, K. Ehrman Survey, sw sds 6264 ft, abnd 7012 ft, 1939. Rowan Dr. Co.'s Vilven 1, Talmadge Survey No. 68, abnd 6515 ft, 1939. **Principal Leaseholders:** Gulf, Sun, Humble, Felmont Oil Corp., Superior Oil Co. **Remarks:** Turnbull & Irwin's Braden 1 was drilled on a 5000-acre block worked by reflection seismograph by Hammond Exploration Co. The block centers around the C. Mays Survey. South Fresno and the Arcola prospects closely join each other. Complex faulting.

SUGARLAND

5 mi se Sugarland, Wm. Stafford, Wm. Little and E. Alcorn surveys. **Means of Discovery:** Surface indications and log of old wildcats. Early refraction seismograph shooting, in search of shallow domes, missed Sugarland. But North American Exploration Co. found it by torsion balance for H. C. Cockburn, who turned leases to Humble Oil & Refining Co., which in meantime confirmed dome by seismograph. **Discovery Well:** Humble's Sugarland Industries 1, March 26, 1928, 800 bbls 28-gr oil, 3536 ft. **Structure:** Salt dome, top cap rock 3500 ft, top salt 4280 ft. Oil sands not pierced by dome. **Producing Formations:** Middle Oligocene sand at 2900-3900 ft; blanket sand spread unbroken over dome, lending itself well to the pressure maintenance program employed in field. **Average Sand Thickness:** 80 ft. **Productive Acres:** 1150. **Daily Production, July 1, 1940:** 3393 bbls. **Estimated Ultimate Recovery:** 90,000,000 bbls. **Production Through June, 1940:** 28,648,000 bbls. **Indicated Remaining Reserve:** 60,494,278 bbls. **Deepest Holes:** Bashara's Sugarland Industries 1, Stafford League, sw sds 5259-68 ft, abnd 7521 ft, May, 1940. **Oil Outlet:** Humble Pipe Line Co., 8-in. **Range of Gravity:** 27-35 degrees. **Rigs Running, July 1, 1938:** One (flank test 1). **Principal Leaseholder:** Humble. **Remarks:** At time of discovery Sugarland was a relatively deep dome and stimulated search for deeper domes along Gulf Coast. Pressure maintenance system has been maintained in field since 1930. **Heaving Shale:** Is found below 5950 ft on flank.

SUGARLAND PROSPECT*

South of Sugarland centering the Brown and Belknap surveys. **Means of Discovery:** Geophysics. **Extent of Development:** Chapman Minerals Corp.'s Sugarland Industries 1, abnd 8010 ft, Dec., 1937. Strake Petroleum Corp. drilled deep dry hole Alcorn Land & Imp. Co. 1, 6 mi se Sugarland, had shows, 1939. Sam F. Bashara drld on same tract 228 ft n Strake well, Sept., 5, 1940 was sd at 3750 ft.

THOMPSONS

2½ mi s Thompsons and 13 mi se of Richmond, Jno. Rabb, S. Kennedy, Robert Peebles, and H. Chrisman surveys. **Means of Discovery:** Surface elevation caused first interest, and several years before opening of field torsion balance work revealed

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anomaly, which was not classed definitely, however, as a dome. **Discovery Well:** Gulf Oil Corp. and Cullen & West's Lockwood & Sharp A-1, May 21, 1931, flowing 400 bbls 24.5-gr oil daily from 3057-3089 ft. **Structure:** Considered deep dome, no cap rock or salt reached. **Producing Formations:** Four Miocene sands at 3050 to 4000 ft; Marginulina zone of Middle Oligocene at 5100-5409 ft, Vicksburg 7700-7800 ft. **Approximate Elevation:** 50 ft. **Average Sand Thickness:** 85 ft, Vicksburg 100 ft. **Productive Acres:** Upper Miocene, 700; 4300 ft Miocene 150; Frio 4550; Vicksburg 460. **Daily Production, July 1, 1940:** 12,972. Upper Miocene 409 bbls, 4300 ft Miocene 635 bbls, Frio 9969 bbls, Vicksburg 1617 bbls. **Deepest Hole:** Naylor's Hampil 2, cored 1 foot oil sd. abnd 9001 ft, Nov., 1939. **Oil Outlets:** Humble Pipe Line Co., 8-in. Gulf Pipe Line Co., 6-in. **Range of Gravity:** 25-43 degrees. **Rigs Running Sept. 1, 1940:** 4. **Principal Leaseholders:** Gulf Oil Corp., and Humble Oil & Refining Co., operating jointly, control nearly whole field; Quintana, J. M. Blaffer; The Texas Co., H. M. Naylor. **Remarks:** Sometimes referred to as Rabbs Ridge. Gulf extended production east of Brazos River, June, 1940. Loffland Bros. completed two wells under river bed by directional drilling. Naylor's Musselman 1, extended field a mile north and discovered Vicksburg production, April, 1939.

GALVESTON COUNTY

ALGOA*

North of Algoa centering I&GN Secs 13 and 26 and J. Shipman. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1936. Salt Dome Oil Corp. reflection seismograph, 1938, torsion balance, 1938. **Extent of Development:** Undrilled. **Principal Leaseholder:** Shell. **Remarks:** See Southwest Algoa, Brazoria County.

ALTA LOMA

Asa Brigham Survey, 5½ mi nw Hitchcock field. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1937. Stanolind Oil & Gas Co. rechecked with reflection seismograph prior to discovery **Discovery Well:** Stanolind's Hulen 1, Brigham Survey, blew out from 9166 ft, May 21, 1940, flowing initially about 1000 bbls 34-gr oil hourly, flowed under partial control two months, until directional relief well was drilled. Discovery date, May 21, 1940. **Type Structure:** Probable deep-seated dome; no salt to 11,100 ft. **Producing Formations:** No cores from discovery. Hulen 2, 2640 ft w of discovery cored 40 ft Frio at 9160 ft. **Estimated Productive Acreage:** 820; 40 developed. **Estimated Ultimate Recovery:** 5,400,000 bbls. **Cumulative Production July 1, 1940:** 240,135 bbls. **Deepest Hole:** Stanolind's Hulen 2 was drilling past 11,000 ft, at Sept. 6, 1940. **Rigs Running Sept. 1, 1940:** 1. **Principal Leaseholder:** Stanolind. **Oil Outlet:** 6-in. to Pan-American refinery at Texas City. **Remarks:** Hulen 3, relief well, was drilled into Hulen 1 hole at 8400 ft, a remarkable example of directional drilling accuracy.

CAPLEN

On Bolivar Peninsula centering A. Dickson Survey. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1935. **Discovery Well:** Sun's Cade 2 March 11, 1939, 307 bbls 34-gr, 11/64-in choke, 7474-78 ft. **Type Structure:** Deep-seated dome. **Producing Formations:** Miocene 7209-15, 7350-7404, 7474-78 ft. **Productive Acres:** 200; 100 developed. **Daily Production July 1, 1940:** 273 bbls. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Cumulative Production July 1, 1940:** 98,052 bbls. **Estimated Reserve:** 2,901,948 bbls. **Oil Outlet:** Barge. **Deepest Hole:** Sun's Cade 1, abnd heaving shale 8805 ft, Aug., 1939. **Gravity:** 7474-78 ft, 30-40 degrees, 7209-15 ft, 33.5 degrees. **Rigs Running July 1, 1940:** 1. **Wells July 1, 1940:** 8. **Principal Leaseholder:** Sun, 8000 acres. **Remarks:** 3 dry holes before discovery. Heaving shale under Cade lease at 8000 ft.

DICKINSON

Southeast Dickinson, John Sellers, BBB&C, J. Jones, P. G. Merritt, W. G. Banks, J. S. Sherman, W. K. Wilson, T. W. Johnson and A. E. Edwards surveys. **Means of Discovery:** Seismograph reflection, Pure Oil Co., 1928; Republic Production Co., torsion balance, 1928; Humble Oil & Refining Co. and Stanolind Oil & Gas Co. also worked the area with geophysical instruments. **Discovery Well:** Humble's Stewart 1, August 3, 1934, blew out and caught fire from Frio sands topped at 7789 ft; Stewart 1-B, first oil well, 2500 ft w of the discovery well made 5 bbls, 37.6-gr per hour, 8025 ft, Nov. 27, 1934. **Structure:** Deep seated dome, however, no dome material yet encountered; complex faulting with varying water levels in each fault block. **Approximate Elevation:** 10-31 ft. **Producing Formations:** Frio 7800 to 8200 ft; 8300 to 8400 ft; 8400 to 8500 ft; 8600 to 8800 ft; 8800 to 9142 ft. Best horizon is Humble sand at 8600-900 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 4200; 3300 developed. **Daily Production, July 1, 1940:** 7350 bbls. **Estimated Ultimate Recovery:** 44,750,000 bbls. **Production Through June, 1940:** 10,879,382 bbls. **Indicated Remaining Reserve:** 33,870,618 bbls. **Deepest Hole:** Humble's Danielson 1 and Scheffer 1, 9360 ft. Scheffer 1 was abnd while Danielson 1 made a producer at 9140 ft. **Oil Outlets:** Humble Pipe Line Co., 4-in; Bennett Production 4- and 6-in; Stanolind Pipe Line Co., 6-in; Pan-American Pipe Line Co., 4-in. Gas for the Pan American Refinery is furnished from this field. **Gravity Oil:** All sand 36 to 40 gravity while wells set too high make 53 gravity distillate. **Rigs Running, Sept. 1, 1940:** 2. **Wells at July 1, 1940:** 191. **Principal Leaseholders:** Humble, Stanolind, Pure Oil Co., Atlantic, F. W. Bennet, Pan-American. **Remarks:** Dickinson has been classed as three fields by many. Southwest of the discovery well has been called Gillock and southeast has been called Kohfeldt or Diadem. However, it is one structure with large faults or grabens. Drilling has been one well to 10 acres. Allowable is set by 50 percent of acreage and 50 percent on potential. Humble has a small gasoline plant in the field. The gas/oil ratio for wells is 2000 to 1. Pure Oil Co.'s Kohfeldt 1, T. W. Johnson Survey, extended the field 2 mi se, June, 1939.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

EAST BAY*

Centering in East Bay, tract 179, n Caplen field, Bolivar Peninsula. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1937-38. **Extent of Development:** Sun's State 1-179, abnd 8355 ft, Aug., 1939; State 1-176, show oil 8000-38 ft, odor 7022-23 ft, abnd 8044 ft, Nov., 1939; State 1-178, abnd 8210 ft, Feb., 1940. **Principal Leaseholder.** Sun.

GALVESTON ISLAND*

Centering the Trimble and Lindsey surveys. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., Gulf Oil Corp. and Stanolind Oil & Gas Co., 1936. **Extent of Development:** Hebert and Smith's Harris 1, Hall Jones Survey, abnd 6706 ft, Dec., 1939. **Principal Leaseholder:** Gulf.

GREEN'S LAKE

6 mi sw of Hitchcock, centering the W. C. M. Baker, D. Buckley Surveys. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1935. Torsion balance, Humble Oil & Refining Co., 1928. **Discovery Well:** Sun's Hughes 1, 220 bbls, 65 percent oil, 35 percent salt water at 3610 to 3620 ft, June 4, 1936. Later killed due to salt water and on potential test June 11, 1936, it flowed 416 bbls 26-gr oil through ⅝-in choke from 3865 to 3891 ft. Later started making salt water again. Was comp 3627 ft. **Type Structure:** Probable deep seated dome. **Approximate Elevation:** 4-20 ft. **Producing Formations:** Plio-Miocene at 2712 to 2736 ft; 3610-20 ft; 3865 ft; 6808-18 ft, new 6450 ft Miocene sand found April 28, 1940. **Average Sand Thickness:** 10 ft. **Productive Acres:** 200; 80 developed. **Daily Production, July 1, 1940:** 22 bbls. **Estimated Ultimate Recovery:** 1,100,000 bbls. Of this 1,000,000 bbls from 6450 ft sd. **Production Through June, 1940:** 35,695 bbls. **Indicated Remaining Reserve:** 1,064,305 bbls. **Deepest Hole:** Sun's Hughes 1, dr to 9636 ft, twisted off three joints of dr pipe, pb and comp after finding sands with electrical logging device. (See discovery well.) **Casing Programs:** 13⅜-in 86 to 1500 ft; 7-in, 2712 to 3890 ft. **Oil Outlet:** No pipe line, all production to storage used for fuel in field. **Gravity Oil:** 22 degrees, 6808-18 ft, 52 degrees. **Rigs Running Sept. 1, 1940:** 1. **Principal Leaseholder:** Sun. **Remarks:** Farthest down dip well in Texas Gulf Coast to produce oil from Plio-Miocene oil from non-piercement type dome. **Heaving Shale:** Is found under Hughes and Rosenkranz tracts. About 2830 ft of shale has been penetrated in Miocene formation. Top of heave is found around 6810 ft.

HIGH ISLAND

At town of High Island, Martin Dunman and Nicholas Fitzsimmons surveys. **Means of Discovery:** Surface elevation, gas seeps and mineral waters. **Discovery Well:** Sun Oil Co.'s Cade 4, Oct. 28, 1922, 70 bbls, 2250 ft. **Structure:** Dome, top cap rock 130 ft, salt 1300 ft. **Producing Formations:** Cap rock at 1500 ft, few wells; Miocene at 3625 to 3766, 4400 to 4521, 4614 to 4960 ft, and 5022 to 6275 ft; 6695 to 6710 ft. **Approximate Elevation:** 4-20 ft. **Average Sand Thickness:** 35 ft. **Productive Acres:** 350; 320 developed. **Daily Production, July 1, 1940:** 2456 bbls. **Estimated Ultimate Recovery:** 25,000,000 bbls. **Production Through June, 1940:** 16,493,442 bbls. **Indicated Remaining Reserve:** 8,506,558 bbls. **Deepest Hole:** Stanolind's Cade B-1, n side, M. Dunman Survey, dr to 7179 ft, set 7-in 6720 ft, perforated 6695 to 6710 ft, comp as producer, June, 1937. **Oil Outlet:** Stanolind Pipe Line Co., 10-in. **Range of Gravity:** 24-37 degrees; average 31.5. **Principal Leaseholder:** Stanolind Oil & Gas Co. **Remarks: Heaving Shale:** Is found under Mathis, B. & O., Cade and Cooper tracts in Miocene formation; 185 to 480 ft of heaving shale penetrated. Top of heave is found around 6070 ft.

HITCHCOCK

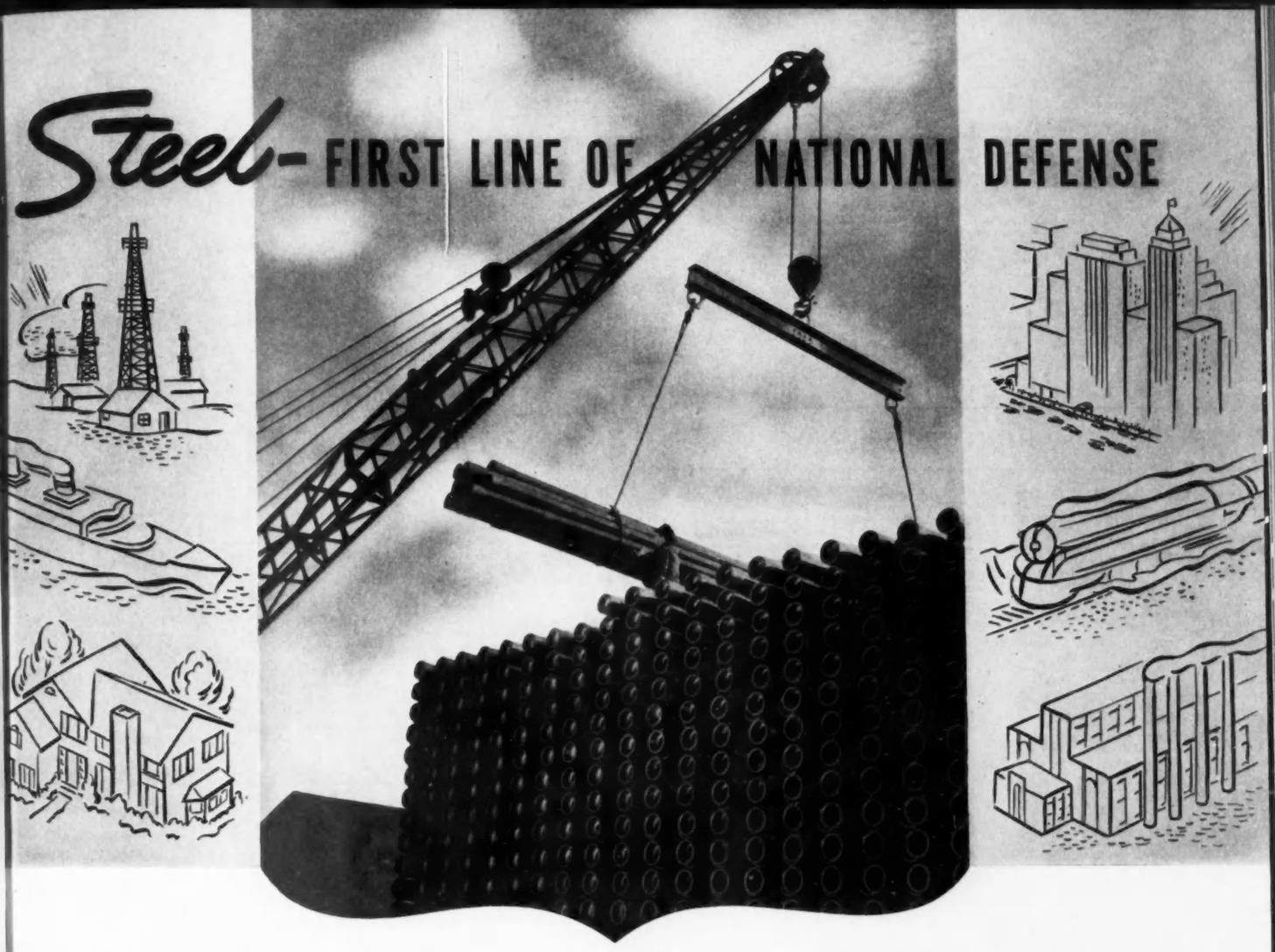
Southeast of Hitchcock, centering around the J. Spillman and A. Burke Surveys. **Means of Discovery:** Gas and sulphur in water well. Torsion balance and reflection seismograph, Shell Oil Co., 1929, 1935, 1936. **Discovery Well:** Maco Stewart's Fee 1, Sept. 5, 1937, 60 bbls 32-gr oil daily, 5146 ft. **Type Structure:** Deep dome. **Approximate Elevation:** 10 to 20 ft. **Producing Formations:** Miocene 5134 to 5160 ft. **Average Sand Thickness:** 12 ft. **Productive Acres:** 200; 140 developed. **Daily Production, July 1, 1940:** 478 bbls. **Estimated Ultimate Recovery:** 1,680,000 bbls. **Production Through June, 1940:** 636,462 bbls. **Indicated Remaining Reserve:** 1,043,538 bbls. **Deepest Hole:** Shell's Maco Stewart 1, drilled to 10,460 ft, first 10,000-ft well in Texas Gulf Coast; pb and tested 5120 to 5130 ft; Dec. 7, 1936, showed 3,000,000 cu ft gas daily and ½ bbl of 33-gr oil per hour. Several tests were made around 5140 ft and the well blew out. It was abnd. **Oil Outlet:** Maco Stewart's 4-in to Texas City. **Gravity Oil:** 29-31 degrees. **Rigs Running, Sept. 1, 1940:** None. **Wells at July 1, 1940:** 14. **Principal Leaseholders:** Maco Stewart, N. W. Hunter. **Remarks:** After drilling two dry holes Shell returned block to Maco Stewart, Stewart drilled Fee 1, 300 ft north of Shell's deep hole and completed producer. **Heaving Shale:** Found under Maco Stewart lease. Top of heave is encountered around 7707 ft in discorbis.

KEMAH–LEAGUE CITY*

East of League City centering M. Muldoon League. **Means of Discovery:** Reflection seismograph and torsion balance, Stanolind Oil & Gas Co., 1937, Reflection seismograph, Continental Oil Co., 1938. Gulf Oil Corp.'s geophysical work did not confirm structure. **Extent of Development:** Sept. 6, 1940 Continental Oil Co. was drilling past 4244 ft in Davis 1, Muldoon Survey, 3200 ft nw Davis 1, dry hole, 2 mi n League City. **Remarks:** Continental has 5700 acre block centering League City.

LEAGUE CITY

SW League City, centering Perry & Austin Survey. **Means of Discovery:** Geophysics, Midwest Royalty Corp., 1937. Continental Oil Co. worked area in 1937. **Discovery Well:** Midwest's Lobit 1, Oct. 22, 1938, Frio at 9092 to 9196 ft, 301 bbls 42-gr oil daily through 9/64-in choke, tbg/csg pressure 1750-1950 lbs. **Type**



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TEXAS CITY*

3 mi s of Texas City, centering H. B. Littlefield Survey. **Means of Discovery:** Geophysical work by Stanolind Oil & Gas Co., The Texas Co., and Gulf Oil Corp. The latter company worked with reflection seismograph in 1935.

GRIMES COUNTY

CARLOS*

3 mi s and e Carlos, Pat O'Connor Survey. **Means of Discovery:** Surface indications checked by geophysics, 1929. **Extent of Development:** Several shallow tests, few with shows around 2800 ft. **Deepest Hole:** Petroleum Southwest Corp.'s Greer 1, dry at 5010 ft, 1933. E. R. Coker's Freund 1, O'Connor Survey, abnd 2939 ft, May, 1940.

FERGUSON'S CROSSING†

5 mi w Carlos, centering J. F. Case and G. W. Seaton Surveys, and lying partially in Grimes and Brazos counties. **Means of Discovery:** Torsion balance, checked by surface geology, Humble Oil & Refining Co. **Structure:** Dome, salt 4038 ft, cap rock 3840 ft. **Extent of Development:** Humble's Templeton 1, Seaton Survey, abnd salt 4170 ft, 1933; Henderson 1, dry at 6130 ft, 1934.

NAVASOTA*

3 mi n Navasota, centering H. Corough Survey. **Means of Discovery:** Torsion balance, Magnolia Petroleum Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Magnolia, Stanolind Oil & Gas Co., Tide Water Associated Oil Co. **Remarks:** In 1939, as result of big Wilcox play in northern counties several companies leased acreage south of Navasota in Walker, Wallace, Moore, and Robertson Surveys.

YARBORO*

3 mi sw Yarboro, J. J. Whiteside and J. E. Groce surveys. **Means of Discovery:** Torsion balance, Cranfill-Reynolds Co., 1929. **Extent of Development:** Cranfill-Reynolds' Baylor 1 Whiteside Survey, quit at 4600 ft, 1930; had oil shows between 1800-2200 ft. Stoneham 1, same survey, dry at 3400 ft. Koch et al's Haferkamp 1, S. Fulton Survey, quit in Cockfield at 3779 ft, 1933. Leigh Sessions et al Barry 1, abnd 6977 ft. **Principal Leaseholders:** Pan American Production Co., Harrison & Abercrombie, W. A. Stockard, Strake Oil Corp., Sun Oil Co., Sessions.

HARRIS COUNTY

ADDICKS*

Near Addicks, centering in central portion of Wm. Hardin and B. Herrara Surveys. **Means of Discovery:** Surface evidence; torsion balance of Cockburn Oil Corp. 1932, indicated a "high." Reflection seismograph, Independent Exploration Co., Standard Oil Co. of Kansas, 1933. Torsion balance, The Texas Co., 1933, Stanolind Oil & Gas Co., 1934. **Extent of Development:** Several shallow tests, including some by Texas Co. Cockburn's Mancuso 1, Hardin Survey, near Buffalo Bayou, dry at 6290 ft. Cockburn and Frazier's Herman Hospital 1 quit at 7597 ft, March, 1935. Took eight cores in Cockfield, but found no sand. Well was abnd in Eponidez Yeguaensis; structurally lower than Mancuso 1. Housh & Thompson Krey 1, 3 mi s Addicks, so 7520 ft, abnd 7818 ft, July, 1939. Temple Hargrove's Herman Hospital, Hardin Survey, sw sd 7340-80 ft, abnd 7512 ft, Nov., 1939. **Principal Leaseholder:** Magnolia Petroleum Co. **Remarks:** Sept. 10, 1940, Cities Service Oil Co. was moving rig for Keuhn 1, Bellows League, 4 mi nw Frazier and Cockburns Hospital 1.

ALDINE

NW Aldine centering E. Farrias Survey. **Means of Discovery:** Seismograph, Texas Gulf Producing Co. **Discovery Well:** Texas Gulf's Weary 1, May 6, 1939, 130 bbls daily, ¼-in choke, 37-gr, perf 6824-34 ft. **Type of Structure:** Dome. **Producing Formations:** Yegua sands 6824-34 feet, 6642-48 ft. **Daily Production July 1, 1940:** 42 bbls from 1 well. **Estimated Ultimate Recovery:** 200,000 bbls. **Cumulative Production July 1, 1940:** 26,028 bbls. **Productive Acreage:** Oil 20, gas 200. **Deepest Hole:** Texas Gulf's Hairgrove 1, dry at 7695 ft, July, 1939. **Oil Outlet:** Truck. **Gravity:** 6642-48 ft, 56-deg; 6824-34 ft, 37-deg. **Rigs Running July 1, 1940:** None. **Principal Leaseholder:** Texas Gulf Producing Co. **Remarks:** Before field was made Texas Gulf's Gillespie 1, elev 102 ft, top Cockfield 6347 ft, cored salt water, gas and distillate sands 6924 to 7307 ft. Top Cook Mountain 7825 ft dr to 8084 ft and set 7-in csg 7180 ft. Perforated 7097 to 7100 ft, April 7, 1937, flowed fluid four hours tubing pressure 300 pounds, casing, 700. Went dead and was washed again April 8, 1937, flowed trace of 38-gr oil. Well went dead and after reperforating at 7078 to 7083 ft the hole was abnd in July, 1937. Same operator's Moore 1 cored salt water sands 6888 to 6893 ft and 7219 to 7254 ft, abnd 7445 ft Sept., 1939. Rath 1, M. Sevey Survey, showed gas and distillate 7346 ft, encountered salt water sand 7618 ft, abnd Dec., 1937, at 7698 ft. Jack Frazier's Gillespie 1, S. Contreras sur, salt water sands 7100-7150 ft, abnd 7880 ft, May, 1938.

ALMEDA*

Adjacent to Almeda on the south, in R. T. Blackburn, J. Hamilton, H. Sanders, and J. W. Moody Surveys. **Means of Discovery:** Vacuum Oil Co. torsion balance, 1928. Area also gave promise previously through surface indications. Seismograph as well as torsion balance has given indication of a very deep dome. Reflection seismograph, Humble Oil & Refining Co., 1935. **Extent of Development:** South Texas Petroleum Co.'s Hicks-Higbee 1, J. Hamilton Survey, abnd 4412 ft in 1929. Also about 2 mi to west two previous tests drilled in H. Sanders Survey, including a 3500-ft test of Cullen et al, Grey, Wolf and Mayo's Hughes 1, F. B. Drake Survey, topped salt water sand 6020 ft, abnd 6261 ft, Dec., 1938. South of Almeda, Mayo & Thompson's Sharp 1, Haynie Survey, dry at 6518 ft, Jan., 1940. **Principal Leaseholder:** Humble.

BAMMEL

West of Westfield, centering around the J. Farwell, Simmons, Ketchum, McLean, Wolters, and J. Ehrhardt Surveys. **Means of Discovery:** Nearly all the major and independent oil companies have worked in this area with geophysical instruments. It is an old Humble Oil & Refining Co., torsion balance prospect which was located in 1928. **Discovery Well:** Hamil & Smith's Zappe 1, March 31, 1937, 3 bbls 53-gr distillate per hour, ¼-in ch, after perforating csg at 6205 to 6211 ft. Later gauged 16 bbls 58-gr distillate, 1,000,000 cu ft gas daily through ¼- and 9/64-in ch. **First Oil Well:** Harwell's Polly 1, McLean Survey, 6 bbls, 33-gr oil daily through casing from 6257-61 ft, June 22, 1938. **Type Structure:** Possible deep seated faulted dome. **Approximate Elevation:** 115-130 ft. **Producing Formation:** Cockfield, 6170 to 6175 ft; 6205 to 6211 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 450: 40 developed. **Daily Production, July 1, 1940:** 81 bbls from 1 well. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through June, 1940:** 370,739 bbls. **Deepest Hole:** Superior Oil Co.'s Butler 1, dr to Wilcox 10,574 ft, pb and perforated 6170-75 ft, comp for gas well, Sept., 1937. **Oil Outlet:** H. M. Harrell. **Gravity Oil:** 58. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Superior, Geo. Lawrence, Hamil & Smith, H. M. Harrell. **Remarks:** Geo. Lawrence dr discovery to 6526 ft where drill stem stuck. Hamil & Smith took over and dr to 6623 ft, set 5½-in csg at 6623 ft, perforated 6412 to 6428 ft, showed salt water, then plugged back to the producing sand. H. M. Harrell has recycling plant in field.

BATTLE GROUNDS

Centering around San Jacinto Battle Ground, A. McCormick Survey. **Means of Discovery:** Surface geology; geophysics. **Extent of Development:** T. S. & F. Oil Co.'s Hines 1, dry at 3915 ft in Miocene, 1935. It made a small amount of gas and brackish water. Several shallow holes drilled by Buckholtz & Miller Cockburn Oil Corp.'s Houston Ship Channel 1, quit at 5785 ft, November, 1935, in Frio, had salt water sand 5560 to 5568 ft. W. S. Howell's Root 1, abnd 2800 ft, February, 1938. Housh & Thompson's Hine 1, salt water sand, 5692-5722 ft, 6350-64 ft, abnd 6523 ft, May, 1939. Across Ship Channel from Battle Ground, in Green's Bayou locality, S. Singleton Survey, Humble abnd Furr 1, 9200 ft, Aug., 1940. **Principal Leaseholders:** T. S. & S. Oil Co., Stanolind Oil & Gas Co., Cockburn Oil Corp., Shell Oil Co., Tide Water Oil Co., S. Dunman.

BELLAIRE*

Southwest of Bellaire and 4 mi nw Pierce Junction dome, centering around J. M. Swisher, W. Twist, C. McKenzie, J. Wells Surveys. **Means of Discovery:** Reflection seismograph, Texas Gulf Producing Co., 1934. **Extent of Development:** Loring Oil & Gas Co.'s Westmoreland 1, Swisher Survey, quit at 7664 ft with a stuck drill stem, August, 1934. Texas Gulf Producing Co.'s Westmoreland 1, nw of Loring Oil & Gas Co.'s Westmoreland 1, abnd 9111 ft, Feb., 1936. Midwest Royalty Co.'s Westmoreland 1, J. Wells Sur, reported show 9050-85 ft, tried to blow out 9450 ft, abnd 9754 ft, May, 1939. **Principal Leaseholders:** Texas Gulf Producing Co. and C. B. Bunte.

BURNETT BAY*

Centering in and around Burnett Bay in N. Lynch Survey. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1934. Within a radius of 2 mi of Burnett May, The Texas Co. worked with reflection seismograph, July, 1934; Sun Oil Co., May, 1934, and Standard Oil Co. of Kansas, June, 1933. **Extent of Development:** Cranfill & Reynold's Brown 1, dry 6124 ft. Cockburn Oil Corp.'s Thompson 1 dr salt water sand in Frio, quit at 7008 ft, March, 1936. **Principal Leaseholders:** Humble Oil & Refining Co. (bed of bay), Shell, Stanolind Oil & Gas Co.

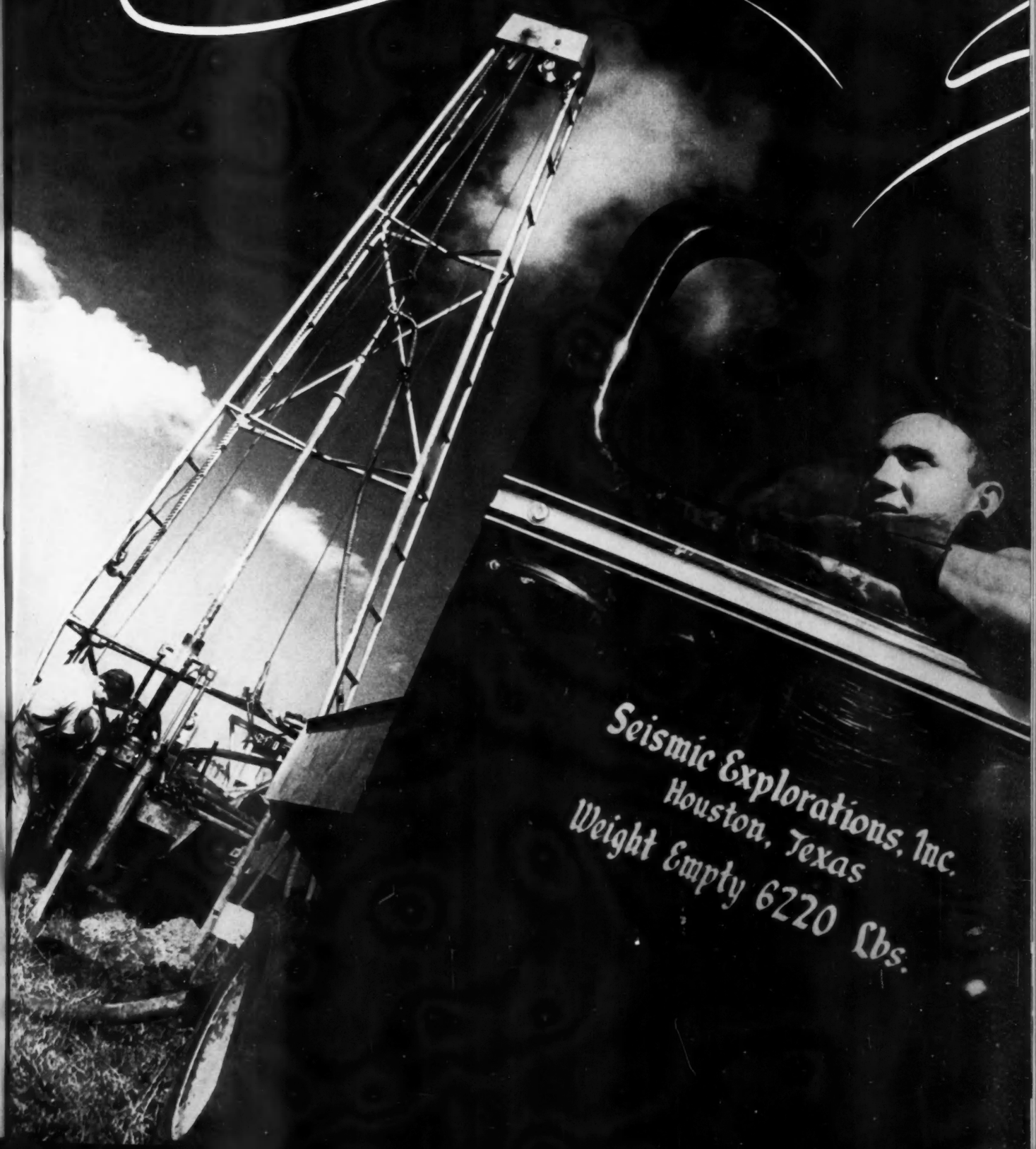
CLEAR LAKE

Northeast of Friendswood, centering the J. Roth, Wm. Doble, G. B. McKinstry, J. Lindsey Surveys. **Means of Discovery:** G. W. Somers Geophysical Corp. reflection seismograph for West Production Co. 1934-1935. Stanolind's Oil & Gas Co. worked in the area. **Discovery Well:** West's Sowden 1, came in April 7, 1938 making gas and distillate from perforations at 5970 to 5990 ft. Was killed and perforated from 5790 to 5805 ft, made an estimated 2,000,000 cu ft of gas daily through ¼-in choke. **Producing Structure:** Faulted dome. **Approximate Elevation:** 20-40 ft. **Producing Formation:** Frio 5790 to 5979 ft. **Average Sand Thickness:** 43 ft. Over 100 ft of gas sand. **Productive Acres:** 1700; 1100 developed. **Daily Production, July 1, 1940:** 1021 bbls from 43 wells. **Estimated Ultimate Recovery:** 25,600,000 bbls. **Production Through June, 1940:** 370,739 bbls. **Indicated Remain-**

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

Seismic Reflection Surveys

—FIRST LINE OF DEFENSE AGAINST DEPLETION OF PETROLEUM RESERVES!



Seismic Explorations, Inc.
Houston, Texas
Weight Empty 6220 Lbs.

ing Reserve: 25,229,261 bbls. **Gravity:** 6015 ft, 31; 5895, 26; 5844 ft, 28. **Deepest Hole:** West's Fee A-1, 2300 ft e of discovery well, dry 7210 ft, May, 1938. **Rigs Running, July 1, 1940:** 6. **Principal Leaseholders:** Stanolind and West. **Remarks:** Stanolind farmed out 20 acres to West to drill the first well. Humble Oil & Refining Co. purchased properties of J. M. West (30,000 acres) at Clear Lake and Friendswood field on Dec. 29, 1938.

CLINTON

NE of Houston, centering around Reels & Trobough Survey. **Means of Discovery:** Torsion balance and reflection seismograph, Stanolind Oil & Gas Co., 1933-34. Fohs Oil Co., 1934, Humble Oil & Refining Co. and Independent Exploration Co, 1935, and The Texas Co., 1927-28. **Discovery Well:** Stanolind's Angello Candelari 1, blew out Oct. 25, 1936, 8101 ft, making gas and distillate. Was killed and made 5 bbls of 48-gr distillate per hour along with 10,000,000 cu ft gas daily through two ¼-in chokes. **Type Structure:** Deep seated dome. **Approximate Elevation:** 33 to 53 ft. **Producing Formations:** Miocene 3207-48 ft; 3596-3600 ft; 3795-3829 ft; 4050-62 ft; Cockfield 8080-8102 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 200; 150 developed. **Daily Production, July 1, 1940:** 127 bbls from 7 wells. **Estimated Ultimate Recovery:** 1,600,000 bbls. **Production Through June, 1940:** 210,291 bbls. **Indicated Remaining Reserve:** 1,389,709 bbls. **Deepest Hole:** Stanolind's Oates encountered several sands to 8783 ft, pb and abnd 5760 ft, June, 1937. **Oil Outlet:** Storage. **Gravity Oil:** 22 and 48. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Stanolind, International Petroleum Corp., Houston Oil Co.

COCKBURN*

North of Deep Water on Houston Ship Channel, centering R. R. Vince and Harris and Carpenter Surveys. **Means of Discovery:** Sub-surface indications. Geophysical work by Continental Oil Co., Shell Oil Co., and The Texas Co. **Extent of Development:** Turnbull & Irwin's Brooks 1 quit at 6015 ft, salt water sand in Frio Feb., 1934. Cockburn Oil Corp.'s Brooks 2, 5745 ft, salt water sand in Frio, Aug., 1935. Sand was cored from 5680 to 5690 ft in Marginulina. Harlen Oil Co.'s Ship Channel 1, showed gas 3135-50 ft, salt water sands 5200 ft down to 6028 ft, abnd March, 1936, at 6028 ft. Cockburn's White 1, Harris and Carpenter Survey, salt water sand 5325-30 ft band 6017 ft, Dec., 1937. Jack Frazier's Houston Deepwater Water & Land Co. 1. T. Earle sur, salt water sand 5453-75 ft, 6600-6900 ft, abnd 6900 ft, June, 1938. No. 2 cored salt water sand 7190-7742 ft, abnd 7743 ft in salt water sand July, 1938. 4 mi to west and se Clinton field. Wilhites' Navigation District 1, E. Thomas Survey, abnd 5508 ft. **Principal Leaseholders:** Cockburn, Temple Hargrove, Turnbull & Irwin, Continental. **Remarks:** See Deer Park, Burnett Bay and Battleground.

CROSBY*

5 mi n of Crosby, D. Culp, A. Reeves, F. Franklin, Wm. Whitlock, J. Sellers, H. Jackson, R. White and Wm. White Surveys. **Means of Discovery:** Torsion balance, reflection sesimograph, Humble Oil & Refining Co., 1934-1937, Stanolind Oil & Gas Co., and Shell Oil Co. have worked in the vicinity with geophysics. **Extent of Development:** J. H. Hodge's Scott 1, dry at 6275 ft, 1934. Humble's Rohlf 1, J. Sellers Survey, dry at 8116 ft, Feb., 1938. Kellar 1-A, Wm. Whitlock sur, (core test) abnd 8000 ft, Sept., 1938. Merit Oil Co.'s G. Smith 1, F. Rankin sur, topped salt water sand 7749 ft, abnd 7901 ft, June, 1938. **Principal Leaseholders:** Humble (11,000 acres), Shell, Stanolind. **Remarks:** See Hale.

CYPRESS*

Northwest of Cypress centering J. W. Moody, A. Roberts, I. B. Steele, J. W. Baker Surveys. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp, 1936. The Texas Company, reflection seismograph, 1938. **Extent of Development:** C. L. Dobbin's Ridgeview Farms 1, abnd 6501 ft, Dec., 1938. J. Deering's Ridgeview Farms 1, show gas 6200-30 ft, sw 6400 ft, abnd 6523 ft, June, 1939, Gulf's Robert's 1, Robert Sur, os 6515-20 ft, dst 6513-45 ft, 500 ft sw; 6930-20 ft, trace dist, sw, abnd 7583 ft, Jan, 1940. Mayo and Christian-Carpenter Dr. Co.'s Anderson 1, T/Cock 5980 ft, sw sd 6142-50 ft, abnd 7509 ft, June, 1940. Sept., 1940, Gulf was preparing farmout deal. **Principal Leaseholder:** Gulf.

DEER PARK*

Between Deer Park and Strange, N. Clapper, G. N. Patrick, Harris and Carpenter, Enoch Brinson, Wm. Jones Surveys. **Means of Discovery:** Torsion balance, 1928. Humble Oil & Refining Co., Gulf Oil Corp. Reflection seismograph, 1935, Amerada Petroleum Corp. **Extent of Development:** Since geophysical work, five deep tests, all below 6000 ft, drilled by W. C. Turnbow et al, Strange Petroleum Corp., McCarthy et al, and Turnbull & Irwin. Latter's Dunn 1, Brinson Survey, showed some gas on drill stem at 2600 ft. Strange's J. W. Good 1 same survey, reported gas show at 6000 ft. Amerada's Esperson 1, topped salt water sand 5546 ft, dr to 6505 ft in Frio, abnd April, 1936. Circle W. Oil Co.'s Houston Realty 1, cored salt water sand with shale breaks from 5100 to 6027 ft, in Marginulina and Frio, abnd July, 1936. West Prod. Co.'s Underwood 1, N. Clapper sur, abnd 8500 ft, Sept., 1937. **Deepest Hole:** McCarthy et al's Harrison 1, Wm. Jones Survey, dry at 6715 ft, Sept., 1933. **Remarks:** See Battle Ground and Burnett Bay prospects.

EAST KATY*

5 mi e of Katy, centering around H&TC and WC Surveys. **Means of Discovery:** Reflection seismograph and torsion balance, Humble Oil & Refining Co., 1933-34. Area has been worked with reflection seismograph by Amerada Petroleum Corp., Independent Exploration Co. Torsion balance work was done by The Texas Co., Stanolind Oil & Gas Co. **Principal Leaseholder:** Humble. **Remarks:** The block consists of 40,000 acres which was taken on a geophysical option in 1934; leases taken for 10 years.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

EUREKA

Northwest of Houston, centering H. and J. Reinerman Survey. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co., Dr. Sundt, reflection seismograph, Tide Water Oil Co. and others. Subsurface work by Jack Frazier. **Discovery Well:** C. B. Bunte's Lackner 1, Nov. 22, 1934, 45 bbls, 51-gr distillate, 3/32-in choke at 7662 ft after pb from 7681 ft. First commercial oil well was Jack Frazier's Vollmer & Nieman 1, 616 bbls 34.5-gr oil daily, ¼-in choke, March 23, 1938, 7730 ft. **Structure:** Considered deep seated dome; no dome material has been encountered. **Producing Formation:** Yegua series, 231 ft, below top of Cockfield in Upper Saline Bayou, from sands at 7662 to 7740 ft, 8075-94 ft. **Approximate Elevation:** 70-90 ft. **Average Sand Thickness:** 25 ft. **Productive Acres:** 1300; 850 developed. **Daily Production, July 1, 1940:** 2047 bbls from 34 wells. **Estimated Ultimate Recovery:** 14,500,000 bbls. **Production Through June, 1940:** 1,868,919 bbls. **Indicated Remaining Reserve:** 12,631,091 bbls. **Deepest Hole:** Jack Frazier's L. Lackner 1, H. Reinerman sur, dr to 9038 ft, pb and discovered new sand at 8082 ft, Sept., 1938. **Oil Outlet:** Jack Frazier's 4-in to loading rack. **Range of Gravity:** 37-51. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Jack Frazier, Means & McGehee, Tide Water Oil Co., Houston Oil Co. **Remarks:** One well to 20 acres. Allowable 50 percent on acreage and 50 percent on potential. The gas/oil ratio is 2000 to 1.

FAIRBANKS

3 mi ne of Fairbanks, centering the A. Larson, J. Clarkson, J. Waugh, W. K. Hamblin, G. Ayers Surveys. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co., 1928. Reflection seismograph Amerada Petroleum Corp. and Stanolind Oil & Gas Co., 1933 and 1937. **Discovery Well:** Amerada and Stanolind's Mills 1, Jan. 12, 1938, 675 bbls, 38.8-gr oil daily ¼-in ch, 6863 ft. **Type Structure:** Anticline. **Approximate Elevation:** 100-130 ft. **Producing Formation:** Yegua, 6505-20 ft, gas sand, 6823 to 6957 ft, 7175-85 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 5000; 3600 developed. **Daily Production, July 1, 1940:** 5768 bbls from 283 wells. **Estimated Ultimate Recovery:** 32,000,000 bbls. **Production Through June, 1940:** 4,814,913 bbls. **Indicated Remaining Reserve:** 27,185,087 bbls. **Deepest Hole:** Stanolind's Schumacher 1, 7940 ft. **Oil Outlets:** Humble Pipe Line Co., 4-in. **Gravity Oil:** 38.8. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Amerada-Stanolind, 50-50 basis; Ralph Johnson, Smith & Owenby, H. E. Williams, Skelly Oil Co., Sinclair Prairie Oil Co. Windsor Oil Co., Gem Oil Co., Housh & Thompson.

FRIENDSWOOD

Northeast of Hastings field, south of Genoa, centering around the common corners of Brazoria, Galveston, and Harris counties in the Perry & Austin, Thomas Choate, W. K. Smith, L. Hemenway A. Whitlock surveys. **Means of Discovery:** Geology, reflection seismograph, torsion balance and gravitometer by Humble Oil & Refining Co. and West Production Co., 1933. G. W. Somers was first to shoot the entire structure. **Discovery Well:** Humble's Settegast 1, July 10, 1937. 650 bbls 30.1-gr oil daily through ¼-in ch from sands at 5811-6009 ft. **Type Structure:** Dome with faulting. **Approximate Elevation:** 30-50 ft. **Producing Formations:** Frio 5488 to 6050 ft. **Average Sand Thickness:** 150 ft. **Productive Acres:** 4300; 4000 developed. **Daily Production, July 1, 1940:** 6402 bbls from 209 wells. **Estimated Ultimate Recovery:** 410,000,000 bbls. **Production Through June, 1940:** 5,046,148 bbls. **Indicated Remaining Reserve:** 404,953,852 bbls. **Deepest Hole:** Humble's Houston Dev. Co., dr to 8452 ft, abnd in July, 1938. **Oil Outlet:** Humble Pipe Line Co., 8-in. **Gravity Oil:** 29-30. **Rigs Running, July 1, 1940:** None. **Principal Leaseholder:** Humble. **Remarks:** 20-acre spacing; gas/oil ratio 2000 to 1. Frequently called Webster.

GENOA*

Near Genoa, Aug. Whitlock, G. Dedrick, C. P. Barnett, J. Pruitt, D. Putnam surveys. **Means of Discovery:** Torsion balance, 1928; North American Exploration Co. for H. C. Cockburn. **Extent of Development:** Jack Schultz et al's West 1, Geo. Dedrick Survey, 25 million ft gas, 3397-3404 ft, Oct. 1, 1933 was accredited discovery of gas field that has made no commercial production, and was shut in. In 1940 Schwab and others drilled 6500 ft dry hole 3 mi sw Genoa. West Production Co.'s Woodburn 1, dry at 7777 ft, June, 1935. **Principal Leaseholders:** H. C. Cockburn, West Production Co., Humble Oil & Refining Co. **Remarks:** Humble took over Cockburn block, drilled two tests and turned back, 1930. Jack Schultz et al drilled on same block in 1932-1933. West has three-quarter interest in 1382 acres and assigned Humble half interest. H. C. Cockburn has 370 acres. Gulfboard Oil Co. and Circle Oil Co. dr dry holes in this area. Both companies logged salt water in Frio below 6500 ft.

GOOSE CREEK

Wm. Scott Upper League, Lower League and Labor and Goose Creek Bay. **Means of Discovery:** Broken surface and gas seeps. **Discovery Well:** T. C. Rucker et al's Gaillard 2, 1906, 800 bbls, 1600 ft. **Structure:** Regarded as probably a very deep dome; no cap rock or salt has been encountered. **Producing Formations:** Pliocene-Miocene and Oligocene sands at 1000 to 4600 ft; one well producing a little oil at 5875-5894 ft. **Average Sand Thickness:** 40 ft. **Productive Acres:** 900. **Daily Production, July 1, 1940:** 1532 bbls from 88 wells. **Estimated Ultimate Recovery:** 85,000,000 bbls. **Production Through June, 1940:** 77,569,939 bbls. **Indicated Remaining Reserve:** 7,430,061 bbls. **Deepest Hole:** Humble Oil & Refining Co.'s Simms-Smith 74, abnd in February, 1929, in sticky shale at 6967 ft. **Oil Outlets:** Humble Pipe Line Co., 8-, 10- and 12-in; Gulf Pipe Line Co., 6-in. **Range of Gravity:** 20-36. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Humble, Gulf Oil Corp., Southern Exploration Co., Port City Oil Co., Gulf Coast Oil Corp., Powell Oil Co., Atlantic Oil Producing Co., Ferrel & Ehrhart, Newton & Lillie, Wier Oil Co. **Heaving Shale:** Is found under Smith & Mitchell tracts in Vicksburg. Around 700 ft of heaving shale has been penetrated. Top of heave is found at 6170 ft.

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HALE*

In ne corner of county, 8 mi ne Humble, centering around R. Hanks Survey. **Means of Discovery:** Worked geophysically about 1928 by Gulf Oil Corp., Shell Oil Co., and Humble Oil & Refining Co. **Extent of Development:** W. R. Alexander et al's Hale 1, abnd May, 1932, 5086 ft, had small gas show at 2500 ft and oil show 3300 ft. W. U. Paul's House 1, M. Magruder Survey, dry at 7329 ft in Cockfield, Jan., 1935, showing of oil in Frio at 3822 ft. House 2, 100 ft n of House 1, quit at 7765 ft, salt water sands in Cockfield, April, 1935, Medford & Burke's Pruitt 1, G. Brooks Survey, dry 7646 ft, Oct., 1937. **Principal Leaseholders:** Gulf, Sun Oil Co. **Remarks:** See Crosby and Highlands.

HIGHLAND*

Near town of Highland, centering B. N. Sessuins and R. White Surveys. **Means of Discovery:** Geophysics by Gulf Oil Corp., General Crude Oil Co., Felmont Oil Corp., subsurface work by Jack Frazier and Bunte. **Extent of Development:** Frazier and Bunte's Lang 1, abnd 5514 ft, 1938; R. Hornberger 1, Sessuins Survey, sw sd 5205 ft, abnd 5525 ft, 1938; Carter 1, stuck dp 4717 ft, abnd, 1938. **Principal Leaseholders:** Gulf, General Crude, Felmont, Frazier, Bunte.

HOCKLEY**

4 mi s Hockley; in T. A. Sulley, A. B. Langermann, S. Everett, E. Ehrenberg, A. Gulliver, T. Cobhill, HT&B No. 1, and J. Hudson. **Means of Discovery:** Surface indications. Reflection seismograph, Humble Oil & Refining Co, 1938. **Discovery Well:** Texas Exploration Co.'s Warren 13, Oct. 15, 1923, 25 bbls, 26-gr, 1820 ft. **Structure:** Dome, cap rock 115 ft. **Producing Formations:** Cap rock and Frio at 1800 ft and 2400 ft. **Approximate Elevation:** 180-200 ft. **Productive Acres:** 10. **Daily Production, July 1, 1940:** (Field abnd 1935) None. **Production Through June, 1940:** 23,404 bbls. **Deepest Hole:** Zeni Oil Co.'s Perkins 1, A. Sherrell Survey, quit at 7510 ft, July, 1936. **Range of Gravity:** 22 degrees. **Rigs Running, Sept. 1, 1940:** 1. **Principal Leaseholders:** Humble, Stanolind Oil & Gas Co. **Remarks:** Salt mined from shallow salt plug. This is one of the most prospected tests on Gulf Coast. In Sept., 1940, Jordan Drilling Co. was deepening a 2090 ft producer to top of salt.

HUMBLE

Under and to the east of Humble townsite. Surveys: M. Owens, W. B. Adams, J. B. Jones, J. Strange, R. Dunn, J. B. Stevenson, W. T. Charles, W. W. Williams, E. Ruhl, G. H. Scott, J. Dunman, HE&WT Nos. 5 and 6, G. Joy. **Means of Discovery:** Surface elevation, gas seeps, paraffin dirt. D. R. Beaty's No. 1, Jan. 9, 1905, 5000 bbls, 700 ft. **Structure:** Dome, cap rock 1000 ft, salt 1200 ft. **Producing Formations:** Cap rock and sands of Miocene, Oligocene, Jackson, and Claiborne age, at 700 to 5670 ft. Field had many prolific wells, including over 50 more than 5000 ft deep. **Average Sand Thickness:** 60 ft. **Productive Acres:** Shallow, 2100; deep, 260. **Daily Production, July 1, 1940:** 2431 bbls from 272 wells. **Estimated Ultimate Recovery:** 130,500,000 bbls. **Production Through June, 1940:** 125,402,127 bbls. **Indicated Remaining Reserve:** 5,597,873 bbls. **Deepest Hole:** Benedum & Trees' Foley 1, sw flank of dome, J. Ryan Survey, abnd in shale 8181 ft, July 1, 1930 in Cook Mountain. **Oil Outlets:** The Texas Pipe Line Co., 10- and 8-in; Magnolia Pipe Line Co. 8-in; Sun Pipe Line Co., 6-in; Humble Pipe Line Co., 8-in. **Range of Gravity:** 17-45 degrees. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** The Texas Co., Humble Oil & Refining Co., Gulf Oil Corp., Sun Oil Co., Continental Oil Co., South Texas Petroleum Co., Southern Petroleum Co., Louisiana Oil Refining Corp., J. D. Clay, Martin, Drake & Jones, E. M. Wilson Oil Co., J. H. Burt, Jno. Deering, Rio Bravo Oil Co., A. W. Crosby. **Heaving Shale:** Is found under Foley, Lee, Stevenson, Bender, Invincible, and Westheimer tracts.

MOUNT HOUSTON‡

Northeast of Houston, s of Mount Houston, centering Houston Suburban Heights Subdivision, Whitney Britton Survey. **Means of Discovery:** Reflection seismograph, torsion balance, Shell Oil Co., Stanolind Oil & Gas Co., The Texas Co., 1935. **Discovery Well:** Jack Frazier's Griffith 4, A. Smith Survey, flowed 1,250,000 cu ft gas daily with few barrels oil from Miocene 3482-85 ft, 600 pounds pressure, ¼-in ch, Aug. 15, 1940. The well was shut in to conserve gas for drilling operations. H. C. Cockburn made location for Burkitt 1, Bunditt Sur. **Deepest Hole:** See pre-discovery drilling below. **Principal Leaseholders:** Frazier, Cockburn, Hargrove, The Texas Co., Gulf Oil Corp., Hunter, Bunte. **Remarks:** Drilling before discovery included: Jack Frazier & Bunte's Griffith 1, A. Smith sur, cored Frio sands 4075 to 4100 ft, sand showing oil, tried to blow out 7760 ft, topped Cockfield 7620 ft, oil and salt water sand 8271 to 8287 ft, took side wall cores 4074 to 4096 ft, set 5½-in csg 4100 ft, perforated 4073½ to 4077½ ft, came in Dec. 2, 1938, flowing oil and salt water, perforated 4070 to 4077 ft, acidized made salt water and oil, later abnd after drilling to 8350 ft, Dec., 1938. Hargrove & Hunter's Griffith 1, 500 ft nw Frazier's Griffith 1, cd sw sds, abnd 4141 ft, April, 1939. Frazier's Griffith 3, Britton Survey sw sd 4074 ft, abnd 4079 ft, May, 1939. Cockburn et al's Holtcamp 1, sw in Frio, abnd 4293 ft, June, 1939. Fraziers' Johnson 1, Britton Survey, dst 3502-10, rec little oil and sw, dld 8515, elec log, abnd, Aug., 1940. **Remarks:** Structure worked by surface geology. Accumulation indicated by soil analysis.

MYKAWA

Southwest of Mykawa in W. J. Lovett, W. B. Walker, and J. C. Megginson, F. J. Rothass, Minnetex Subdivision. **Means of Discovery:** Gas in old wells and surface indications; torsion balance of North American Exploration Co. (1928) for H. C. Cockburn gave evidence of deep dome. **Discovery Well:** Humble Oil & Refining Co.'s Irvin 2, 50-million foot gas well, 4189 ft, Aug. 19, 1929. **Structure:** Regarded deep dome, although no cap rock or salt has been encountered. **Producing Formations:** Miocene and Oligocene (Frio) at 4100-4900 ft; on e side, Frio from 4380 to 4892 ft. **Approximate Elevation:** 30-50 ft. **Average Sand Thickness:** 30 ft. **Productive Acres:** 350; 350 developed. **Daily Production, July 1, 1940:** 886 bbls. **Estimated Ultimate Recovery:** 5,100,000 bbls. **Production Through June, 1940:** 3,860,000 bbls. **Indicated Remaining Reserve:** 1,075,635 bbls. **Deepest Hole:** McDannald Oil Co.'s Brown 1, se flank, HT&B No. 7, salt water sands 5385-5410 ft; 5431-42 ft, dry in Vicksburg 8012 ft, Nov., 1939. **Oil Outlet:** Humble Pipe Line Co., 8-in. **Range of Gravity:** 27-30 degrees. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Crown Central Petroleum Corp. and Framer Oil & Gas Corp. (jointly), Hamil & Smith, Higgins Oil & Fuel Co., Watts Drilling Co., West Production Co., Sterling Oil & Refining Co., Danciger Oil & Refining Co., Alpha Petroleum Co. **Remarks:** West Production Co.'s J. Raymon et al, 1, extended the field e and discovered a Frio sand at 4525 ft, and started a drilling campaign for that area. The east side of the field was called East Mykawa. Gas production taken by Houston Pipe Line Co. on east side of Mykawa, one well is dr to each 10 acres. **Heaving Shale:** Is found under Lang, Farmer and Minnetex leases in Vicksburg. Top of heave is logged at 6630 ft (6 ft) and 7001 ft (over 355 ft) of the shale encountered.

OGBURN

South of Cypress, Jno. Ogburn, WC RR Sur No. 12. **Means of Discovery:** Torsion balance, Cranfill & Reynolds, 1929. Later geophysics did not show structure. **Discovery Well:** Joyce Richardson & Christian-Carpenter Drilling Co.'s Marks 1, Ogburn Survey, June 26, 1940, flowed 30 bbls 54-gr distillate from 6918-26 ft, with 1,000,000 gas daily through 9/64- and ¼-in ch, tbg pressure 2700 pounds. **Type of Structure:** Probable deep dome. **Producing Formations:** Cockfield 6918-26 ft; Sept. 10, 1940, a 2500 ft extension was being completed at 6654-58 ft for 5 bbls 42-gr oil hourly, ⅛-in ch. **Productive Acreage (July 1, 1940):** 800, 40 developed. **Estimated Ultimate Recovery:** 1,440,000 bbls. **Production July 1, 1940:** None; discovery well testing. **Deepest Hole:** See pre-discovery drilling record below. **Oil Outlet:** None. **Gravity:** 6918-26 ft, 58 degrees, 6654-58 ft, 42 degrees. **Principal Leaseholders:** Joyce Richardson, Christian-Carpenter Dr. Co., W. L. Goldston, Pan-American Prod. Co., Falcon-Seaboard Dr Co., Cities Service Oil Co. **Remarks:** Since the discovery the field has had one failure 500 ft east, one producer 2500 ft northwest. Pre-discovery drilling included Cranfill-Reynolds Co.'s Rorick 1, ne corner Ogburn Survey, quit at 5420 ft, July, 1930. Had three oil shows, one each immediately above and below 2200 ft, and one around 3300 ft. General Crude Oil Co.'s Rorick 1, Ogburn Survey, dry at 6863 ft, Sept., 1934. Hebert, Still & Hooper's Backman 1, J. Ogburn Survey, quit at 6516 ft, salt water in Cockfield, July, 1935. Walter Goldston et al's Weingarten 1, H&TC Sec 39, quit in Cockfield at 6603 ft, Feb., 1935. Ne of Ogburn, H. M. Harrel and O. L. Brace's Bullock 1, C. Bowman Survey, dry in Yegua at 7005 ft, April, 1937. O. W. Killam's Sweeney 1, G. Williams Sur, topped Cockfield 6386 ft, abnd April, 1938. Hamblin 1, WCRR No. 11, slight show oil 6633, abnd 7015 ft, May, 1938. O. W. Killam's Dodd 1, broken shows with salty taste from 6453 to 6637 ft and 6657 to 6687 ft, abnd July, 1938. Continental & McAlester Fuel's Sweeney 1, one mi nw of Killam's Sweeney 1, cored gas and distillate sands with salt water on bottom from 6507 to 6522 ft, dry at 7755 ft, Oct., 1938. Coastal Dev Co.'s Sweeney 1, odor oil, salty taste 6826-57 ft; odor oil and gas 7067-73 ft; dry at 7505 ft, Aug., 1939, Christian-Carpenter Dr Co.'s Grispee 1, 3 mi e of Ogburn, J. Picture Sur, show 6608-46 ft, dry at 7020 ft. Feb., 1940. West of Ogburn Sur Cities Service's Cook 1, H&TC No. 60, dry at 7588 ft. Feb., 1940, slight shows 6797 ft, 6837 ft.

PIERCE JUNCTION

Southwest Houston; in I&GN No. 47, J. Kopman, BBB&C No. 1028, and J. Hamilton Nos. 51, 52, 53, 96 and 98. **Means of Discovery:** Surface elev, gas seeps, and paraffin dirt. **Discovery Well:** Gulf Oil Corp.'s Taylor 2, 75 bbls, 3525 ft, Feb. 19, 1921. **Structure:** Dome, cap rock 700 ft, salt 950 ft. **Producing Formations:** Miocene, middle Oligocene, Frio and lower Oligocene at 3142 to 5566 ft. Numerous good wells over 5000 ft. Vicksburg sand at 6250 to 6710 ft, one well had oil sands at 6943 ft. **Average Sand Thickness:** 45 ft. **Productive Acres:** 350, 320 developed. **Daily Production, July 1, 1940:** 1647 bbls from 68 wells. **Estimated Ultimate Recovery:** 42,200,000 bbls. **Production Through June, 1940:** 34,-152,724 bbls. **Indicated Remaining Reserve:** 8,047,276 bbls. **Deepest Hole:** Benedum & Trees Oil Co.'s Settegast 1, sw flank test, quit at 7165 ft, Oct., 1934, in Jackson. **Oil Outlets:** Humble Pipe Line Co., 6-in; Shell Pipe Line Co., 10-in; Gulf Pipe Line Co., 6-in. **Range of Gravity:** 21-41. **Rigs Running July 1, 1940:** None. **Principal Leaseholders:** Rio Bravo Oil Co., Gulf, Navarro Oil Co., Moody Corp., H. R. Cullen, Humble Oil & Refining Co., Anderson & Plummer, T. G. Shaw et al, Abercrombie & Harrison, Warner-Quinlan Co., Tilton & Perot, South Texas Prod. Co., Hamil & Smith. **Remarks:** Navarro Oil Co. discovered Vicksburg production, 1934, in Cain A-3, a workover.

RED BLUFF*

Southeast LaPorte, Wm. P. Harris Survey, jutting into Trinity Bay. **Means of Discovery:** Torsion balance, Sloane Prospecting Co., 1931. **Extent of Development:** Red Bluff Oil Co.'s Seureau 1, quit at 6028 ft, March, 1934. J. Newton Rayzor's Robertson 1, Ritson Morris Survey, 3 mi n Seabrook, abnd 8500 ft, Aug., 1940.

SATSUMA

12 mi nw Houston, centering the F. Fry, WCRR Sec 2. **Means of Discovery:** Torsion balance, Amerada Pet. Corp. and Stanolind Oil & Gas Co., 1934-35, Humble Oil & Refining Co., 1928. **Discovery Well:** Amerada-Stanolind's Dopsalus 1, 2,400,000 cu ft gas June 5, 1936. June 6, it started making 4.3 bbls 44.8-gr oil per hour through 13/64-in ch from 6820 to 6842 ft. Potential showed 128 bbls daily. **Type Structure:** Regarded as deep dome. **Approximate Elevation:** 115 to 130 ft. **Producing Formations:** Upper Saline Bayou 6803 to 6834 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 1000; 500 developed. **Daily Production, July 1, 1940:** 303 bbls from 10 wells. **Estimated Ultimate Recovery:** 3,-500,000 bbls. **Production Through June, 1940:** 446,268 bbls. **Indicated Remaining Reserve:** 3,053,732 bbls. **Deepest Hole:** Amerada-Stanolind's L. Dopsalus 1, discovery well, made several tests 6800

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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ft, dr salt water sand 6885 ft, dr to 7520 ft, pb and comp 6822 ft. **Casing Programs:** Amerada-Stanolind, 10-in, 1395 ft; 7-in, 6800 ft. **Oil Outlet:** Humble Pipe Line Co., 4-in. **Gravity Oil:** 42-45. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Amerada and Stanolind. **Remarks:** Was called Fairbanks.

SHELDON*

Between Deversdale and Crosby and nw of Sheldon, centering around the southern part of Blanco Sur. **Means of Discovery:** The Texas Co., Shell Oil Co., Stanolind Oil & Gas Co., and Humble Oil & Refining Co. geophysical work in 1934-35. Continental Oil Co., Gulf Oil Corp., reflection seismograph, 1938. **Extent of Development:** A. C. Hill's Swilley B-1, Blanco Sur, dry at 7566 ft, March, 1936. Swilley 1-A, w of Swilley B-1, higher than Swilley 1-B, quit at 7547 ft, March, 1936. Selby Oil Co.'s East Texas Oil Co. 1, sw sd 6405-13 ft, T/Yegua 8125, abnd 8149 ft, Sept., 1939. **Principal Leaseholders:** A. C. Hill, Shell, Texas, Humble, Pan-American Prod. Co., The California Co., Sinclair Prairie Oil Co.

SOUTH HOUSTON

Surrounding town of South Houston, H&TB Sec 5, Mary Nichols, South Houston Garden Subdivision 6 and 7, Callahan and Vance surveys. **Means of Discovery:** Reflection seismograph, torsion balance, Stanolind Oil & Gas Co., 1934. **Discovery Well:** Stanolind's Drilling District 17 (Fee 1), 4665-80 ft, June 29, 1935, 12 bbls fluid per hour, 25.6-gr oil. Salt water forced drilling deeper to Vicksburg. Well tried to blow out at 5682 ft, Sept. 15, was pb and drilled to 6050 ft and abnd Nov. 21, 1935. **Structure:** Dome, top salt 4662 ft; one of sharpest domes in Gulf Coast. **Producing Formations:** Basal Miocene 3845-4095 ft; 4135 ft; Lower Marginulina-Frio 4535-4894 ft. **Approximate Elevation:** 30-50 ft. **Average Sand Thickness:** Miocene 50 ft; Oligocene 150 ft. **Productive Acres:** 660; 620 developed. **Daily Production, July 1, 1940:** 1754 bbls from 94 wells. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through June, 1940:** 5,703,953 bbls. **Indicated Remaining Reserve:** 4,296,047 bbls. **Deepest Hole:** Stanolind's Staiti 1, n flank, dr to 9474 ft, made gas and oil 7553-7565 ft, pb test salt water 4150-60 ft, abnd Sept., 1939. **Oil Outlet:** Stanolind Pipe Line Co., 6-in. **Range of Gravity:** 19.5-25.5. **Rigs Running, July 1, 1940:** None. **Principal Leaseholder:** Stanolind. **Remarks:** One well is permitted to each 16 acres or 1 well to 4 blocks. Lots are divided into drilling districts. Johnson & Johnson turned the block to Stanolind after getting leases on town lots from all parts of the world.

SOUTHEAST CROSBY*

6 mi se Crosby, Hannah, Nash, L. Hemingway, George Ellis and W. Gregory surveys. **Means of Discovery:** Surface indications seismograph, Shell Oil Co., 1929; Sloane Prospecting Co., torsion balance, Atlatl Royalty Co., reflection seismograph, 1939. **Extent of Development:** Five deep tests by Sloane, ranging from 5520 to 6564 ft deep, and finding various oil and gas showings including gas around 1500, 3200, 4000 and 4400 ft, and oil around 4000, 4500, 4800 and 5950 ft. H. S. DeArman's Tyrell & Garth 1, gas 4140-4205 ft, top Frio 6137 ft, slight show 6135-6200 ft, abnd 7029 ft, May, 1937. **Principal Leaseholders:** Shell, Gulf Oil Corp.

TOMBALL

Includes town of Tomball and embraces all or portions of Jos. House, J. H. Edwards, W. Hurd, C. Goodrich, J. M. Hooper, C. Goodrich, I&GN, A. Scenechal, C. N. Pillot, W. Usener, J. Pruitt, E. Smith, T. A. Duclose, Hahl, C. Marriott, and R. Hubbard surveys. **Means of Discovery:** Surface and sub-surface geology; torsion balance, Vacuum Oil Co., 1929; also geophysics by others, 1933. **Discovery Well:** Magnolia Petroleum Co. and Humble Oil & Refining Co.'s Kobs 1, J. M. Hooper Sur, 69 bbls 41-gr oil per hour through ½-in ch from Cockfield at 5547-5569 ft, May 27, 1933. **Structure:** No dome material reached, but regarded dome, as other structures along the Raccoon Bend-Conroe trend; in fact, closely resembles Conroe. Is circular in shape. Has 800 ft structural uplift, 350 ft total closure, 250 ft productive closure, and oil in about 25 ft of the productive closure. Several faults, averaging 150 ft displacement, cut across the structure ne-sw. **Producing Formations:** Gas sand 2045-60 ft. Several sands at short intervals but probably connected by faulting, in Cockfield at 5505-5682 ft. **Approximate Elevation:** 150 to 210 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 9000; 8750 developed. **Daily Production, July 1, 1940:** 7527 bbls from 437 wells. **Estimated Ultimate Recovery:** 5,500,000 bbls. **Production Through June, 1940:** 15,323,303 bbls. **Indicated Remaining Reserve:** 39,676,697 bbls. **Deepest Hole:** Standard of Kansas Martens 1, topped Wilcox 8279 ft, elec log showed 200 ft sand section with shale breaks aggregating 200 ft, Aug., 1940. No completion was attempted as sand was apparently too gassy. **Oil Outlets:** Humble Pipe Line Co., 8-in; Magnolia Pipe Line Co., 6-in. Humble built a 120-mile, 10-in gas pipe line in 1937 from the field to industrial centers in Houston, Baytown, Port Arthur and Port Neches. **Range of Gravity:** 37-41. **Rigs Running July 1, 1940:** One. **Principal Leaseholders:** Humble and Magnolia jointly control large percentage of field: Amerada Petroleum Corp. and Stanolind Oil & Gas Co., jointly; The Texas Co., Continental Oil Co., Windsor Oil Co., Shell Oil Co., Sun Oil Co. **Remarks:** Humble has gasoline plant. One well is dr to each 20 acres. Gas/oil ratio is 2500 to 1.

HARDIN COUNTY

ARIOLA

2 mi w Voth, E. Ariola Survey. **Means of Discovery:** Seismograph, Gulf Oil Corp., 1928; also shown as dome by seismograph of Humble, Shell and others prior to actual drilling. **Discovery Well:** Republic Prod. Co. and Houston Oil Co.'s Ariola 1, Sept. 14, 1932, 320 bbls 41-gr net oil, 60 percent water, daily through choke from 3995 to 4157 ft. This was first test drilled on the prospect. **Structure:** Dome, top salt 3933 ft. **Approximate Elevation:** 35 ft. **Producing Formations:** Miocene-Pliocene at 3000 to 3579 ft; 3826 to 4320 ft in Heterostegina; 4700 ft in Frio. **Average Sand Thickness:** 20-50 ft. **Productive Acres:** 100. **Daily Production, July 1, 1940:** 430 bbls. **Estimated Ultimate Recovery:** 2,700,000 bbls. **Production Through June, 1940:** 1,972,892 bbls. **Indicated Remaining Reserve:** 727,108 bbls. **Deepest Hole:** Gulf's Kirby 1-A, abnd 6743 ft in Vicksburg. **Oil Outlet:** Texas Pipe Line Co., 6-in to Sour Lake, thence to Port Arthur. **Range of Gravity:** 26-34. **Rigs Running, Sept. 1, 1940:** None. **Principal Leaseholders:** Republic, Houston. **Heaving Shale:** Is found under Ariola tracts below 5000 ft.

BATSON

Adjacent Batson, A. M. Lejarza, BBB&C, Jno. Knight, F. H. Green, W. Donoho, J. Milhome, C. Choate surveys. **Means of Discovery:** Gas seeps and paraffin dirt. **Discovery Well:** Paraffin Oil Co.'s Fee 1, Oct. 31, 1903; 600 bbls, 790 ft. **Structure:** Dome, cap rock 1080 ft, salt 2050 ft. **Producing Formations:** Cap rock; sands at 245-920 ft; Oligocene ranging down to 3600 ft; Yegua from 4867 to 5625 ft. **Approximate Elevation:** 75-90. **Average Sand Thickness:** 30 ft. **Productive Acres:** Shallow, 500; deep, 150. **Daily Production, July 1, 1940:** Shallow, 631 bbls; deep, 489 bbls. **Estimated Ultimate Recovery:** Shallow, 38,300,000; deep, 3,500,000 bbls. **Production Through June, 1940:** Shallow, 37,769,012 bbls; deep, 1,943,642 bbls. **Indicated Remaining Reserve:** Shallow, 530,988 bbls; deep, 1,556,358 bbls. **Deepest Hole:** Seaport Oil Co.'s Jordan 1, dr 6628, pb and comp, Mar., 1939. **Oil Outlets:** Sun Pipe Line Co., 6-in; Gulf Pipe Line Co., 6-in. **Range of Gravity:** 20-38.4. **Rigs Running July 1, 1940:** None. **Wells July 1, 1940:** Shallow 188, deep 16. **Principal Leaseholders:** The Texas Co., W. G. Christian et al, Texas Gulf Prod. Co., Gulf Oil Corp., Ada Bell Oil Co., Dowell, Shell, John Deering, Atlantic Refining Co. **Remarks:** John Deering and Batson Oil Co.'s Hooks 1 extended field over 3000 ft se, Oct., 1934; it made 85 bbls per day from 5090 ft in heaving shale; oil sand was found in Upper Saline Bayou from 4896 to 4998 ft. **Heaving Shale:** Is found below 4800 ft.

BRAGG*

South of Bragg, centering around W. K. Griffin Survey. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1935. **Extent of Development:** J. G. Mayo's Haddin 1, dry at 6008 ft, Dec., 1937. **Principal Leaseholder:** Humble. **Remarks:** Sw of Votaw prospect.

COTTON SURVEY*

Between Sour Lake and Ariola, centering WCRR Sec 380, and A. J. Cotton surveys. **Means of Discovery:** Reflection seismograph gave indications of structure. Stanolind Oil & Gas Co. torsion balance, 1935. **Extent of Development:** Resource Production Co.'s Howth 1, dr salt water sand 5501 to 5505 ft and 5913 to 5918 ft, abnd 6021 ft, July 29, 1936.

GRIGSBY*

E. Grigsby and E. Emanuel surveys, 8 mi e Saratoga. **Means of Discovery:** Petty Geophysical Engineering Corp. torsion balance and reflection seismograph, 1929. Stanolind Oil & Gas Co., torsion balance, 1935. David B. MacDaniels worked with torsion balance in 1935. **Extent of Development:** D. B. MacDaniels' Nona Mills 1 cored salt water in Yegua from 8088 to 8098 ft, abnd June, 1936. **Principal Leaseholders:** D. B. MacDaniels, Sun Oil Co., Stanolind Oil & Gas Co.

HESTER*

Centering Chas. Stewart and Edward Lubitt surveys, Tyler County line. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1937. **Extent of Development:** Undrilled. **Principal Leaseholders:** Gulf, A. C. SoRelle. **Remarks:** In 1939, A. C. SoRelle leased 2000 acres centering Stewart Newell, Riley, and Telford surveys. The leases, formerly held by Humble, were taken on old geophysical work.

KOUNTZE*

2 mi n Kountze centering J. R. Carry and J. Landis No. 1 surveys. **Means of Discovery:** Geology, involving surface indications and subsurface data later. **Extent of Development:** About half dozen shallow tests, from 800 to 2700 ft. Three deep tests, Frazier & Greer's Sternberg 1, HT&B No. 283 Survey, quit in Cockfield at 6988 ft, June, 1934. Wilcox Oil & Gas Co.'s Sternberg 1, Dorsey Sur, quit at 6501 ft, Sept., 1934. Gas show 3268 to 3280 ft and at 5010 ft. Jack Frazier's Sternberg 1, Pearson Sur, abnd 6897 ft, May, 1935, salt water 6865 to 6895 ft in Cockfield. Jack Frazier's O. Sternberg 1, J. Houston Sur, dr salt water sand 6728 to 6854 ft and 6907 to 6972 ft, dry in Cockfield 7001 ft, May, 1936. Frazier's Mills Lbr. Co. 1, 3 mi sw Kountze, Cockfield 7110 ft, abnd 8515 ft, Aug., 1940. **Principal Leaseholders:** Humble Oil & Refining Co., United Gas Co., Empire Gas & Fuel Co., Republic Production Co., Houston Oil Co. **Remarks:** In 1939 Sun reworked with reflection crews, revising their block centering BBB&C Sec 116 to include 2000 acres. North of Kountze, Stanolind leased 2000 acres in Baker, Dorsett & Kisner surveys.

SARATOGA

Adjacent to Saratoga, M. E. Hopkins Nos. 1 and 2, BBB&C No. 132, and 72, C. F. S. Jordit, J. F. Cotton, R. Teel, N. Fuller, J. Lewis surveys. **Means of Discovery:** Broken surface, mineral water, and gas seeps. **Discovery Well:** Hooks et al's Hooks 1, 1901, 500 bbls, 995 ft. **Structure:** Dome, cap rock 1500 ft, salt 1900 ft. **Producing Formations:** Pliocene-Miocene and Oligocene at 500-2000 ft, and around 2650 ft, 3100 ft, and 3300 ft; cap rock 3320 ft. **Approximate Elevation:** 96 ft. **Average Sand Thickness:** 17 ft. **Productive Acres:** 500; 500 developed. **Daily Production, July 1, 1940:** 855 bbls. **Estimated Ultimate Recovery:** 30,000,000 bbls. **Production Through June, 1940:** 29,258,164 bbls. **Indicated Remaining Reserve:** 764,368 bbls. **Deepest Hole:** Seven Wells Corp.'s Teel 1, sw flank, dry at 6270 ft, Aug., 1933, in Yegua. **Oil Outlet:**

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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Sun Pipe Line Co., 6-in; Gulf Pipe Line Co., 6-in. **Range of Gravity:** 17-21. **Rigs Running July 1, 1940:** Two. **Principal Leaseholders:** Paggi Brothers, Weldon Oil Co., Gulf, Sun Oil Co., Rio Bravo Oil Co., E. W. Skinner. **Remarks:** Hines Bros.' Caswell 1, BBB&C 72, extended field 4000 ft e, Dec., 1934; it made 50 bbls daily on pump from 3321 ft; Upper Saline Bayou was encountered just above cap rock.

SILSBEE

Northwest of Silsbee, centering around G. W. Brooks, J. A. Williams, and J. Ellery surveys. **Means of Discovery:** Torsion balance, Republic Production Co., 1934-35. **Discovery Well:** Republic and Houston Oil Co.'s Brooks 1, blew out Aug. 5, 1936, at 6982 ft, cratered and caught fire August 7, 400 bbls oil daily with a large volume of gas. It was extinguished by Brooks 2, a relief well, Oct. 2, 1936. First commercial producer was Brooks 3, 750 ft sw of cratered well, Dec. 14, 1936, 140 bbls 43-gr oil 22½ hours through ¼-in ch at 6979 ft. **Type of Structure:** Deep-seated dome, no salt to 7778 ft. **Approximate Elevation:** 48-110 ft. **Producing Formations:** Lower Cockfield 6905 to 6982 ft; Upper Cockfield at 6824 to 6913 ft. Top of Cockfield usually around 6735 ft. **Average Sand Thickness:** 6830 ft pay, 15 ft; 6900 ft pay, 25 ft. **Productive Acres:** 1100; 1020 developed. **Daily Production, July 1, 1940:** 909 bbls. **Estimated Ultimate Recovery:** 8,500,000 bbls. **Production Through June, 1940:** 1,775,633 bbls. **Indicated Remaining Reserve:** 6,724,366 bbls. **Deepest Hole:** Republic's Burrell 1, abnd 7778 ft in Cook Mountain topped 7600 ft. **Oil Outlets:** Atlantic Pipe Line Co., 4-in to Atreco. **Gravity Oil:** Paraffin; 36-43 degrees. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Republic, Houston Oil Co., Humble Oil & Refining Co., General Crude Oil Co. **Remarks:** One well to 20 acres.

SOUR LAKE

Adjoins Sour Lake on the north, being in S. Jackson, H. Williams Survey and H&TB A-282. **Means of Discovery:** Broken surface, gas seeps, and mineral waters. **Discovery Well:** Sour Lake Oil Co.'s Fee 2, July 18, 1902, 10,000 bbls, 375 ft. **Structure:** Dome, cap rock 660 ft, salt 719 ft; field produced originally from cap rock in large quantities; revived in 1913 by discovery of deep flank sands in Oligocene, Jackson and Yegua to 4500 ft. **Producing Formations:** Pliocene-Miocene and cap rock at 500-1200 ft, and middle Oligocene and lower Oligocene at 1793 to 4400 ft; Upper Saline Bayou, 4505 to 4509 ft; Cockfield at 6804 ft showed 34-gr oil. **Approximate Elevation:** 23-43 ft. **Average Sand Thickness:** 100 ft. **Productive Acres:** 875. **Daily Production, July 1, 1940:** 1211 bbls. **Estimated Ultimate Recovery:** 85,000,000 bbls. **Production Through June, 1940:** 79,611,518 bbls. **Indicated Remaining Reserve:** 5,398,482 bbls. **Deepest Hole:** Sun Oil Co.'s Sterling 1, ne flank, dry at 7914 ft, March, 1935. **Oil Outlet:** Gulf Pipe Line Co., 6-, 8-, and 10-in; The Texas Pipe Line Co., 12-in; Sun Pipe Line Co., 10-in. **Range of Gravity:** 16-31. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Rio Bravo Oil Co., Lake View Oil Co., Gulf Oil Corp., The Texas Co., Orange Petroleum Co., Minor Oil Co., Gilbert Oil Co., Lake Graham Oil Co., Theis Oil Co., Stanolind Oil & Gas Co., Houston Production Co., M. L. Yount, Tr., Prudential Oil Co., Humble Oil & Refining Co., Sun Oil Co., Alpha Petroleum Co., Kirby and Woodley Pet. Co. **Remarks:** Five tests on the ne flank showed commercial oil and gas in the Cockfield but due to heaving shale and fine sands were forced to abnd; Yount-Lee Oil Co.'s Fee Lynn 1, S. Jackson Survey, drilled 3811 ft of salt from 3650 to 7461 ft. **Heaving Shale:** Is found under the Weiss, Kirby and Sterling leases in Vicksburg and Cockfield on flank around 5850 to 7071 ft.

VOTAW*

3 mi ne Votaw, B. H. Hawkins and M. K. Sherman surveys. **Means of Discovery:** Geophysical work was done in 1931 by several companies, including Gulf Oil Corp., seismograph. **Extent of Development:** Funderberg & Smith's Kirby 1, Hawkins Survey, dry, 2840 ft. S. Robichaux et al's McShane 1, same survey, dry, 3919 ft, 1932. W. R. Alexander et al's Southwestern 1, Sherman Survey, dry, 3691 ft, 1932. **Deepest Hole:** S. Robichaux's McShane, Hawkins Survey, 3919 ft.

JASPER COUNTY

BESSAMAY*

Northwest of Bessamay, centering around J. D. Johnson Survey. **Means of Discovery:** Reflection seismograph and torsion balance, Sun Oil Co., 1936. **Extent of Development:** Undrilled. **Principal Leaseholder:** Sun.

BUNA*

Northeast of Buna, centering around H&TC No. 74, S. Crawford and J. A. Richson Surveys. **Means of Discovery:** Geophysical work by Humble Oil & Refining Co., Sun Oil Co., Republic Production Co., Gulf Oil Corp. **Extent of Development:** Republic's Sabine Tram 1, dry 7615 ft in Yegua, May, 1935; gas showed around 7422 ft. **Principal Leaseholders:** Sun, Humble, Republic, Gulf, E. L. Smith Oil Co.

EVADALE*

Southeast of Evadale, centering around B. Richardson Survey. **Means of Discovery:** Geophysical work, Republic Production Co. **Principal Leaseholder:** Republic.

KEITHTON*

6 mi se Jasper, centering Blake, Williams, Turner and Morgan Surveys. **Means of Discovery:** Geophysics, Sun Oil Co. **Principal Leaseholder:** Sun.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

MAGNOLIA SPRINGS—LEGRAND*

Near Tyler-Jasper County lines and w of Mangolia Springs, centering around A. Wright and E. O. Legrand Surveys. **Means of Discovery:** Geophysical work, reflection seismograph and torsion balance, Magnolia Petroleum Co., 1937. **Extent of Development:** In E. O. Legrand sur, Alpha Petroleum Co.'s Cartwright 1, salt water 5100 ft, abnd June, 1934. J. G. Mayo et al's Cartwright 1, Legrand sur, cd sw sd 7306-7316 ft, abnd 7760 ft, July, 1938, C. B. Bunte's Cartwright 1, sw sds 4400, 4500, 4600, 6971 ft, abnd 7759 ft, Aug., 1939. **Principal Leaseholders:** Magnolia, C. B. Bunte, Tide Water, Margay, Pan American, Harrison & Abercrombie. **Remarks:** In July, 1940, a report was out that Randon Production had assembled a 5000-acre block 5 mi sw Jasper, centering Jones Survey, and planned test.

ROCKLAND

2 mi ne Rockland. B. Addison, P. Smith Surveys. **Means of Discovery:** Surface indications. Drilling began in 1902. **Discovery Well:** Record of first production was in 1928. Rio Neches Oil Co.'s Boykin 1, 8 bbls daily, 1932, 1273 ft. **Type Structure:** Structure rather than salt dome type. **Producing Formations:** Sands around 1275 ft, considered base of Jackson or top of Yegua. **Average Sand Thickness:** 6 ft. **Productive Acres:** 80. **Daily Production, July 1, 1940:** 20 bbls. **Estimated Ultimate Recovery:** 50,000 bbls. **Production Through June, 1940:** 36,000 bbls. **Indicated Remaining Reserve:** 14,000 bbls. **Deepest Hole:** Two tests dr below 3000 ft. **Oil Outlet:** Tank cars. **Range of Gravity:** 21-25. **Rigs Running July 1, 1940:** 1. **Principal Leaseholder:** Midwest Oil Co. **Remarks:** This field abnd several years until March 1, 1940, when Midwest Oil Co. revived production with Boykin 1, Racki Survey. The company drilled 2 subsequent dry holes and a 74-bbl daily pumping well, which Sept. 10, 1940, was shut down, as was the discovery. The area is fairly well defined by dry holes drilled by J. C. Bonham, Kountze 1, 2 mi n Rockland, abnd 1372 ft, 1939; Kountze 2, 2 mi se Rockland, 4320 ft; Kountze 3, 1 mi n Rockland, 1005 ft, all drilled in 1939.

ROGANVILLE*

8 mi e Jasper, centering A. J. Youngblood, T. C. Holmes, H. H. Hogh Surveys. **Means of Discovery:** Geophysics, Mid-Kansas Oil Co., 1933. **Extent of Development:** Marathon Oil Co.'s Jasper County Lumber Co. 1, quit at 5614 ft in Crockett, Aug., 1935, in salt water, 3443 to 3473 ft. **Principal Leaseholders:** Stanolind Oil & Gas Co., Barnsdall Oil Co., Atlatl Royalty Co., Pure Oil Co., Woodley Petroleum Co., all participating in scattered taking in 1939.

SARAH GRAY*

9 mi n Beaumont, w part Sarah Gray Survey, sw corner Jasper County, and extending across river into S. K. Vanmeter Survey, Hardin County; e½ of J. W. Spoeffel Survey. **Means of Discovery:** Surface indications; shallow drilling; geophysics, 1932. **Extent of Development:** Two deep tests in addition to shallow drilling. Republic Production Co.-Houston Oil Co.'s Ben Andrews Fee 1, Vanmeter Survey, abnd 1932, in shale at 7420 ft, Gulf Production Co.'s Miller-Vidor 1, Gray Survey, quit at 6970 ft, early 1933. **Remarks:** David B. MacDaniels has block of 3000 acres, acquired in November, 1935. The leases were taken for 5 years. He worked area with torsion balance. Magnolia Petroleum Co. worked area with reflection seismograph, 1935 and 1936.

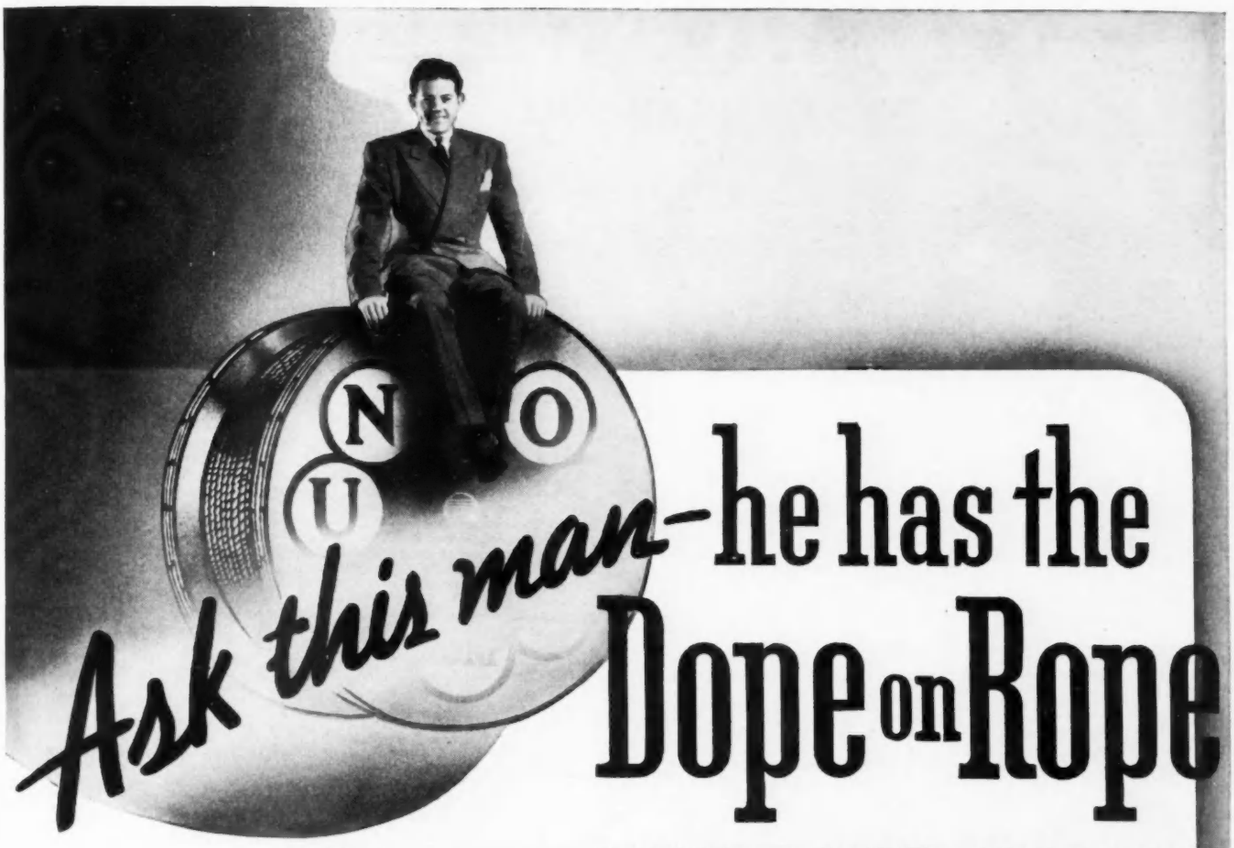
JEFFERSON COUNTY

AMELIA

West Beaumont, centering C. Williams and A. Savery Surveys. **Means of Discovery:** Humble Oil & Refining Co., torsion balance and reflection seismograph, 1934. Magnolia Petroleum Co., torsion balance, 1935. Reflection seismograph, Sun Oil Co., Stanolind Oil & Gas Co., 1935. **Discovery Well:** Humble's Langham 1, Feb. 12, 1936, 257 bbls in 12 hrs, 29.2-gr oil, 6778 to 6791 ft. Potential test Feb. 15, 1936, 476 bbls 28.5-gr daily, ¼-in choke, tubing pressure 675 pounds; casing pressure 1000 pounds. Gas/oil ratio 289 to 1. **Structure:** Deep dome. **Producing Formations:** Frio, 6778 to 6791 ft. **Approximate Elevation:** 30-40 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 1250; 1250 developed. **Daily Production, July 1, 1940:** 2265 bbls from 114 wells. **Estimated Ultimate Recovery:** 21,200,000 bbls. **Production Through June, 1940:** 4,131,874 bbls. **Indicated Remaining Reserve:** 17,068,126 bbls. **Deepest Hole:** Texas Co.'s Yount 1, abnd 8501 ft. **Oil Outlets:** Humble Pipe Line Co., 6-in. Adjacent lines leading to Beaumont and Port Arthur area. **Gravity Oil:** 27-29. **Rigs Running, Sept. 1, 1940:** None. **Principal Leaseholders:** Humble, Normandie Oil Co. **Remarks:** Spaced 466 ft apart and 233 ft from property lines. Gas/oil ratio 2000/1. Potential taken through ¼-in chokes. See West Beaumont which is on same uplift.

BIG HILL**

8 mi se Hampshire; S. Eaton, EL&RR No. 373, J. L. Dyson, D. D. Dyson and Wm. McFaddin Surveys. **Means of Discovery:** Elevation, gas. **Discovery Well:** Houston Oil Co.'s Pipkin-Davis 1, March 29, 1923, 35 bbls, 1735 ft. **Structure:** Dome, cap rock 200 ft (known since 1901). **Producing Formations:** Several small oil wells in Plio-Miocene at 1700-1800 ft, 4913-20, gas at 5900-5958 ft. **Average Sand Thickness:** Southeast flank, 50 ft. **Productive Acres:** 10. **Daily Production, 1940:** None (abandoned 1924). **Estimated Ultimate Recovery:** 13,853 bbls. **Production Through June, 1940:** 13,853 bbls. **Deepest Hole:** Stanolind's Pipkin 5-A, dry 8290 ft, Aug. 1938, 7498 ft. Stuck drill stem, fish, July, 1938. **Gravity Oil:** 4913 ft, 36. **Principal Leaseholders:** The Texas Co., Houston Oil Co., Stanolind Oil & Gas Co. **Remarks: Heaving Shale:** Under Pipkin-Davis tracts around 5790 ft, 5900 ft, and 6670 ft in Heterostegina.



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CHEEK (Lovell's Lake)

Southwest of Spindle Top, centering around C. Hillibrandt Survey. **Discovery Means:** First torsion balance by H. C. Cockburn in 1929. From 1933 to 1938 the area was worked with reflection and torsion balance by Humble Oil & Refining Co. Shell Oil Co. worked to the south in 1936 and 1937. Subsurface information and Humble's Jefferson Land 1, north well, cut a fault and led to the drilling of discovery well. **Discovery Well:** G. H. McCarthy's Broussard 1, Jan. 10, 1938, 122 bbls, 40-gr oil, ⅛ and 9/64-in choke, 7725 ft. **Type Structure:** Dome. Oil production on down-throw, down dip side of fault scarp; distillate production on up dip, up-throw side of scarp. **Approximate Elevation:** 9-29 ft. **Producing Formations:** Frio sands 7690 to 7794 ft, 7800-10 ft. **Average Sand Thickness:** 50 ft. **Productive Acres:** 2600; 900 developed. **Daily Production, July 1, 1940:** 2068 bbls from 54 wells. **Estimated Ultimate Recovery:** 35,430,000 bbls. **Production Through June, 1940:** 771,958 bbls. **Indicated Remaining Reserve:** 34,658,042 bbls. **Deepest Hole:** Magnolia's Phelan 3, abnd 9007 ft, March, 1938. **Oil Outlet:** Magnolia to Beaumont. **Gravity Oil:** 35-40. **Rigs Running, July 1, 1940:** 5. **Principal Leaseholders:** Glenn H. McCarthy, Humble, Shell, Stanolind, Sun, Amerada. **Remarks:** Humble's Todd 1, Carr Survey, extended field 1½ mi w to establish South Cheek or original Lovell's Lake area. **Heaving Shale:** Has been found near this field.

CHINA*

East of China, centering J. Gerish Survey. **Means of Discovery:** Geophysics by Sun Oil Co., Humble Oil & Refining Co., Republic Prod. Co. **Extent of Development:** Smith & Hebert's Turner 1, abnd 6078 ft, April, 1939. **Principal Leaseholder:** Sun.

CLAM LAKE

West of Sabine, centering around S. A. Pace Survey. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1928, Humble Oil & Refining Co. also showed prospect favorably by geophysics. Shell torsion balance in 1925 failed to give dome indications. Only Shell and Humble had showed this prospect as a dome. **Discovery Well:** Shell's McFaddin 1, Dec. 27, 1937, 15 bbls hour, 34-gr oil, ¼-in choke, 5929 ft. **Type Structure:** Dome. **Approximate Elevation:** Sea level. **Producing Formations:** Miocene 5913 to 5960 ft, 2387-97 ft, 3845-55 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 600; 450 developed. **Daily Production, July 1, 1940:** 146 bbls from 10 wells. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Production Through June, 1940:** 117,657 bbls. **Indicated Remaining Reserve:** 2,882,343 bbls. **Deepest Hole:** Shell's McFaddin Trust 2, 8198 ft, salt. **Oil Outlet:** Barge. **Gravity Oil:** 2387-97 22-deg, 34. **Principal Leaseholders:** Shell, Humble.

FANNETT

Sw Fannett; J. Blackman, M. Bowes, I. Proborth, W. H. Smith Surveys. **Means of Discovery:** Seismograph, Gulf Oil Corp., 1925. **Discovery Well:** Gulf's Bordages 2, Jan. 20, 1927, 50 bbls. **Structure:** Dome, cap rock 870 ft, salt 2200 ft. **Producing Formations:** Miocene 3250-4520 ft; Middle Oligocene 4849-5020 ft; Lower Oligocene (Frio) 5608-5670 ft, 6535 to 6615 ft, 7660-80 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 260; 160 developed. **Daily Production, July 1, 1940:** 492 bbls from 20 wells. **Estimated Ultimate Recovery:** 7,450,000 bbls. **Production Through June, 1940:** 2,618,290 bbls. **Indicated Remaining Reserve:** 4,831,710 bbls. **Deepest Hole:** Gulf's Bordages 2, nw flank, dr to 8296 ft, perf 8275-85 ft, comp in new sand, Feb., 1940. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 26-38. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholder:** Gulf. **Remarks: Heaving Shale:** Is found under Burrell, Junker and Bordages tracts in Miocene and Oligocene. Thomas 20, dr to 7949 ft in salt, perf 7660-80 ft, comp in new sand, May, 1939. New Frio sand, nw flank, found Jan. 25, 1940. **Estimated Ultimate Production:** 4,200,000 bbls.

GILBERT RANCH

7 mi s of China, centering I. B. Pipkin, J. G. Grant, J. Ricord, T&NO 63, 74 and 75. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1934. Magnetometer and torsion balance, D. B. MacDaniels. Various other torsion balance and reflection seismograph parties have worked this area. Geophysical work was done by Humble Oil & Refining Co. **Extent of Development:** MacDaniels' Gilbert 1, J. Ricord sur, dry 7305 ft, Dec., 1936; Gilbert 2, J. G. Grant sur, abnd 7886 ft, April, 1937. **Principal Leaseholders:** Sun, MacDaniels. **Remarks:** Humble has lease on over 7000 acres of the S. W. Pipkin land s and e of Big Hill field and scattered through the s central portion of the county. East of Lawhorn sur, Stanolind Oil & Gas Co., Sun Oil Co., Felmont Oil Corp., own acreage.

GULF OF MEXICO*

South of E. Howard Survey, 150 feet offshore of Jefferson County in Block 72. **Means of Discovery:** Reflection seismograph and torsion balance, Humble Oil & Refining Co., Shell Oil Co., Magnolia Petroleum Co., 1936 and 1937. **Extent of Development:** I. E. Harwell's State 1, stuck dr stem 5821 ft, abnd March, 1938. At the senate investigation hearing of the state land department, operators testified that gas sands were cored at 2640 to 2700 ft, and oil sands from 2796 to 2812 ft, and that the sands were good enough to make a well. Sept. 10, 1940, Hall-Jordan Oil Co. was drilling simultaneously State 1-72, 50 ft e Harwell's State 1, and State 2-71, 9000 ft s State 1-72. British American Oil Co. was interested in these tests. **Principal Leaseholders:** Humble, Shell, Magnolia, Merrimac Oil Co., Hall-Jordan.

HAMPSHIRE*

Northwest Hampshire, T&NO 86. **Means of Discovery:** Seismograph, Shell Oil Co., 1928; later checked by torsion balance. **Extent of Development:** Shell's Heisig 1, abnd 7305 ft in 1929; had oil show at 5000 ft and another slight show at 7100 ft. Fidelity Oil & Royalty Co.'s Craigen 1, T&NO Survey, Abs 146, dr to 9412 ft, show gas 8557 ft, March, 1940. **Remarks:** S of this prospect Gulf Oil Corp. acquired 3500 acres in Sept., 1934. Marrs McLean has 3000 acres in this area up to Fannett field. Magnolia Petroleum Co. has acreage in T&NO 142 and 154. (See Winnie).

JEFFERSON COAST*

Offshore of Jefferson County in Gulf of Mexico, in Tract 8. **Means of Discovery:** Refraction and reflection seismograph, torsion balance, core drilling by Humble Oil & Refining Co. from 1932 to 1937. **Discovery Well:** Humble's McFaddin-State 1, topped salt 2603 ft, abnd, May, 1938. **Type Structure:** Dome, anhydrite 1412 ft, salt 2603 ft. **Extent of Development:** Humble has drilled several shallow wells on land, the deepest being 7603 ft in heaving shale. **Principal Leaseholders:** Humble, Shell, Magnolia. **Heaving Shale:** Is found under McFaddin lease in this area in Miocene around 2257 and 6094 ft and below 7600 ft. **Remarks:** Sometimes referred to as McFaddin Beach.

LA BELLE

Centering around W. B. Burton and B. Blackman Survey. **Means of Discovery:** Torsion balance, Vacuum Oil Co., 1929. Checked negative by seismograph after test was drilled. Later geophysical work by Sun Oil Co. **Discovery Well:** Sun Oil Co.'s Broussard 2, Jan. 13, 1937, 8211 to 8218½ ft, spraying gas and distillate, ⅛-in ch. First commercial oil well. Sun Oil Co.'s Hebert 3 cored sand showing oil at 8622 ft, and when cutting stuck dr pipe, well started blowing out, April, 1938. Made 1066 bbls 46.5-gr oil and 83,000,000 cu ft gas daily through 4½ and 1½-in dr pipe. **Type Structure:** Considered deep dome. **Approximate Elevation:** 5-25 ft. **Producing Formations:** Marginulina of Oligocene at 8206 to 8219 ft, 8600 ft, 8670 ft. **Average Sand Thickness:** 11 ft. **Productive Acres:** 500; 200 developed. **Daily Production, July 1, 1940:** 27 bbls from 1 well. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through June, 1940:** 380,439 bbls. **Indicated Remaining Reserve:** 619,561 bbls. **Deepest Hole:** Sun's Ward 1, s of discovery well, tried to blow out 8562 ft, set 9⅝-in csg 8538 ft, cored additional sand to 9951 ft, topped sand 10,043 ft, blew out, killed, dr to 10,147 ft, pb and tested 10,015 ft, well made gas, was killed, pb 8890 ft, abnd Dec., 1937. **Outlet:** Barge. **Gravity Oil:** 8622 ft, 45.6; other sands gas and distillate. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholder:** Sun. **Heaving Shale:** Has been found in area.

LOVELL LAKE PROSPECT*

Centering around Lovell Lake, W. Smith and J. J. French, surveys. **Means of Discovery:** Sub-surface information. **Extent of Development:** C. H. McSpadden's Burrell 1, abnd 7795 ft in Marginulina, June 1936. Geo. H. Echol's American National Bank, J. J. French Sur, cored salt water sands 8494 to 8515 ft. Broken formations with shows of oil from 8143 to 8147 ft and an elec log showed possible oil sands at 8304 to 8320 ft, 8340 to 8347 ft and 8480 to 8500 ft. It was abnd at 8515 ft, Sept., 1938. **Principal Leaseholder:** C. H. McSpadden.

NEDERLAND

South of Nederland, centering T&NO 7. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1937. **Extent of Development:** J. T. Miller's Edwards 1, dry at 3700 ft n of Port Arthur, G. W. McPhail's Owens 1, BBB&C 387, dry 3880 ft, July 1936. Owens 2, dry at 1718 ft, Sept., 1936. **Principal Leaseholder:** Sun.

NOME

3 mi se of Nome, centering W. H. Aldridge, M. Peveto, J. Blair T&NO 32, and J. W. Kirby surveys. **Means of Discovery:** Surface indications, torsion balance, Sun Oil Co., 1932. Torsion balance and reflection seismograph, Shell Oil Corp., 1934-35. **Discovery Well:** Shell's Carpenter 1, July 19, 1936, 574 bbls 26.9-gr oil daily, ¼-in ch, 6005 to 6058 ft. **Type of Structure:** Regarded as deep dome but no domal material has been encountered. **Approximate Elevation:** 40 to 60 ft. **Producing Formations:** Gas sand 4775 ft, Marginulina of Oligocene at 5990 to 6060 ft. **Average Sand Thickness:** 12 ft. **Productive Acres:** 1000; 900 developed. **Daily Production, July 1, 1940:** 595 bbls from 42 wells. **Estimated Ultimate Recovery:** 9,000,000 bbls. **Production Through June, 1940:** 1,666,189 bbls. **Indicated Remaining Reserve:** 7,333,811 bbls. **Oil Outlet:** Sun Pipe Line Co., 6-in. **Gravity Oil:** 26.9 **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Shell and Sun. **Remarks:** Before discovery Sun's Paggi 1 yielded two joints 28-gr oil but very little gas, from 6003-6023 ft on drill stem test, and failed to produce when casing was run and screen set. Hole carried to 7277 ft, finding no more shows, and abnd Dec., 1933. The Texas Co.'s Bevil 1, Burr & Caswell Survey No. 1, quit at 6402 ft, Dec., 1933, after encountering slight show of oil at 6182-6194 feet. Sun Oil Co.'s Long 1, John Blair Survey quit after drilling to 9045 in Vicksburg, April, 1935. Yielded some oil and showed gas pressure as high as 750 pounds on tests, 5963 to 6072 ft; also had small oil shows around 6400 ft. Salt water was swabbed from 6000 ft. **Heaving Shale:** Sun's deep test dr 450 ft of heaving shale in Hockleyensis under Long tract. Top of the heave 8595 ft.

NORTH NOME*

North of Nome, centering C. L. Nash, J. Vannes and A. Horton surveys. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1936 and 1937. **Extent of Development:** Lee Bros.'s Wilson, dry 7012 ft, Nov., 1937. Humble's Blanch 1, dry 6530 ft, Jan., 1938 (core test). Same operator's Willis 1, J. Vannes sur, dry at 6500 ft, March, 1938 (core test). **Principal Leaseholder:** Humble. South of Nome, in Blair, McFarland, Kirby, and Price surveys, Sun Oil Co. has 10,000-acre block.

PINE ISLAND*

South of Pine Island, centering J. W. McCaffey HT&B 10 Survey. **Means of Discovery:** Geophysics by Sun Oil Co. First test drilled because it was believed that Amelia fault extended this direction. **Extent of Development:** H. Hebert and S. Smith's Broussard Trust 1, logged gas sands, 6835 to 6866 ft, abnd 7360 ft in salt water, July, 1937. **Principal Leaseholders:** Sun, S. Smith and H. Hebert, Magnolia Petroleum Co., United Gas Co.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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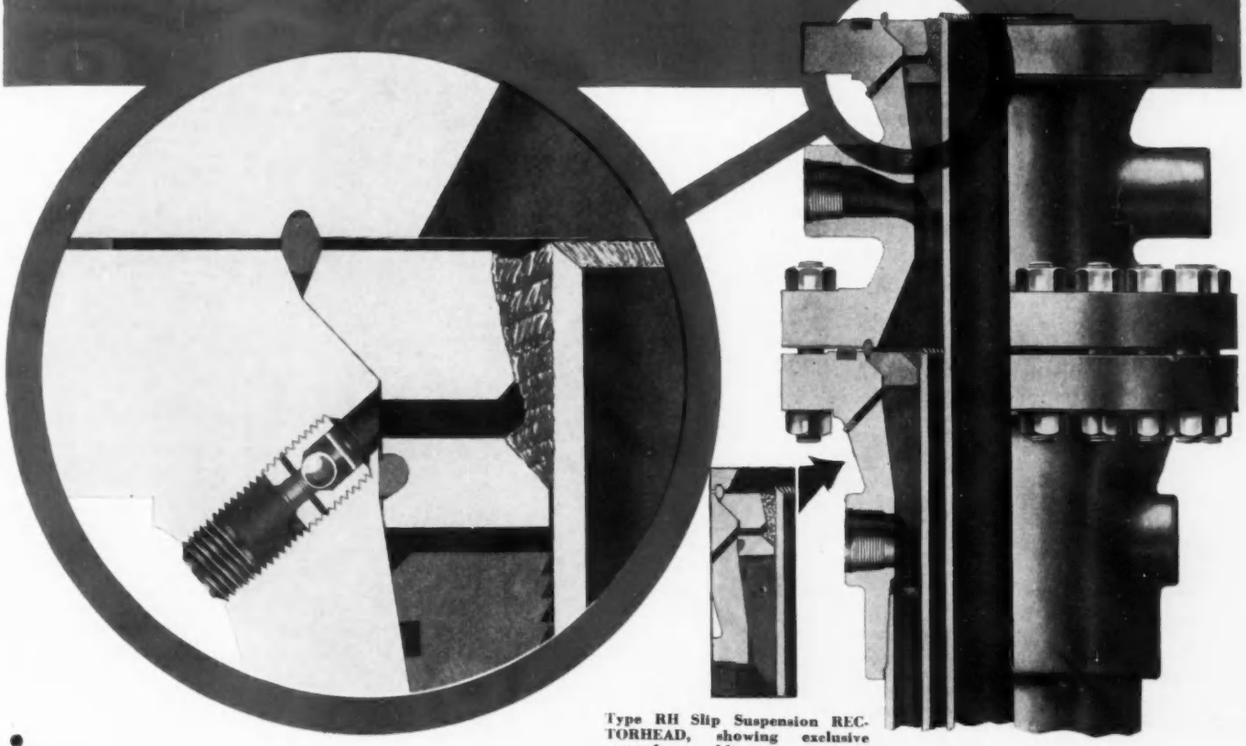

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SABINE PASS—Hebert Broussard Ranch*

West of Sabine, centering Hebert & Broussard land in Pedro de la Garza and J. Fletcher surveys. **Means of Discovery:** Reflection seismograph, torsion balance, Humble Oil & Refining Co. Magnolia Petroleum Co., Republic Production Co., 1936, 1937. **Extent of Development:** Undrilled. **Principal Leaseholders,** Humble, Magnolia, Republic.

SOUTH CHINA

South of China, centering HT&B 17 Survey, including No. 18, and Gaylor surveys. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1935. **Discovery Well:** Geo. Echols, S. Smith, and H. Hebert's Fontenot 1, June 23, 1939, 202 bbls 37-gr oil daily, ¼-in ch, Frio 7882-85 ft. **Producing Formations:** Frio 7882-85 ft, 7490-7540 ft, 7802-10 ft. **Type of Structure:** Probable deep dome. **Productive Acres:** 400; 200 developed. **Daily Production July 1, 1940:** 237 bbls from 7 wells. **Estimated Ultimate Recovery:** 3,600,000 bbls. **Cumulative Production July 1, 1940:** 61,481 bbls. **Estimated Reserve:** 3,538,519 bbls. **Deepest Hole:** Discovery dr 8785 ft, pb and comp. **Oil Outlet:** Sun Pipe Line Co. **Gravity:** 37 degrees at 7882-85 ft, 52 degrees at 7803-10 ft. **Rigs Running, September 1, 1940:** 4. **Principal Leaseholders:** Titanic Oil Co., Pan American Production Co. **Remarks:** Prospect was found by Sun Oil Co. and farmed out to Hebert & Smith, who promoted the discovery well. Titanic Oil Co.'s Guiterman 1, extended field 4000 ft ne, Jan., 1940, and discovered new sand at 7490 ft.

SPINDLETOP

2 mi s Beaumont; Jno. A. Veatch, P. Humphrey, J. Douthit surveys. **Means of Discovery:** Elevation, gas, mineral waters. **Discovery Well:** J. F. Lucas' Gladys 1, 84,000 bbls, 1139 ft, Jan. 19, 1901. **Structure:** Dome, cap rock 700 ft, salt 1200 ft. **Producing Formations:** Cap rock and Miocene 800-1200 ft; Miocene 2500-3500 ft; Middle Oligocene and Frio, 4000-5879 ft. **Approximate Elevation:** 5-25 ft. **Average Sand Thickness:** 70 ft. **Productive Acres:** 450. **Daily Production, July 1, 1940:** 1732 bbls from 157 wells. **Estimated Ultimate Recovery:** 135,000,000 bbls. **Production Through June, 1940:** 125,845,054 bbls. **Indicated Remaining Reserve:** 9,154,946 bbls. **Deepest Hole:** British American & Merit Oil Co.'s Gladys City 1, 1800 ft n prod, abnd 7382 ft, Nov., 1938. **Oil Outlets:** Stanolind Pipe Line Co., 6-in; Humble Pipe Line Co., 8-in; Texas Pipe Line Co., 12-in; Atlantic Pipe Line Co., 10-in; Gulf Pipe Line Co., 10-in; Sun Pipe Line Co., 8-in. **Range of Gravity:** 26-29. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Stanolind Oil & Gas Co., Gulf Oil Corp., Magnolia Petroleum Co., Rio Bravo Oil Co., The Texas Co., Sun Oil Co. **Remarks:** First oil discovery in Gulf Coast. **Heaving Shale:** Is found under Gladys City tract around 5900 ft.

TOLIVER*

South of Pine Island Bayou, centering S. Morris Survey. **Means of Discovery:** Gas in bayou; torsion balance, Earl Hankamer, 1934. **Extent of Development;** Turnbull & Irwin's Toliver 1, dry at 5573 ft, Aug., 1934. Navarro Oil Co.'s Toliver 1, dry at 4840 ft, 1934. K. Keith's Hankamer 1 quit at 5029 ft, May, 1930.

WEST BEAUMONT

North of Amelia field and west of Beaumont, centering H. Williams and H. Houston surveys. **Means of Discovery:** Worked with geophysics some time ago. The block was turned to Stanolind Oil & Gas Co. when Yount-Lee Oil Co., was purchased by Stanolind. Stanolind Oil & Gas Co. worked in the area and so did Glenn H. McCarthy. **Discovery Well:** McCarthy's Longe 1, 4,000,000 cu ft gas and 40 bbls 58-gr distillate daily, 6099 to 6113 ft, March 20, 1936. **Type Structure:** Faulted dome. **Approximate Elevation:** 30-50 ft. **Producing Formations:** Miocene 4560 to 4600 ft; Oligocene 5390 to 5400 ft; 5595 to 5640 ft; 5835 to 5895 ft; 5901 to 5911 ft; 6095 to 6109 ft; 6740 to 6756 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 500; 450 developed. **Daily Production, July 1, 1940:** 2714 bbls from 54 wells. **Estimated Ultimate Recovery:** 4,320,000 bbls. **Production Through June, 1940:** 2,464,553 bbls. **Indicated Remaining Reserve:** 1,855,447 bbls. **Deepest Hole:** The Texas Co.'s Yount 1, sw of discovery, tried to blow out in gas sands 8041 to 8044 ft, stuck drill pipe at 8501 ft, abnd in Vicksburg 8501 ft, Nov., 1936. **Oil Outlets:** Sun Pipe Line Co., 4-in; Humble Pipe Line Co. to Baytown. **Gravity Oil:** 27 to 29. **Rigs Running, July 1, 1940:** 3. **Principal Leaseholders:** Stanolind, McCarthy, Sun Oil Co., The Texas Co. **Remarks:** After Humble discovered Amelia field McCarthy drilled Longe 1 on farmout of Stanolind. Later development between West Beaument and Amelia showed that the two areas were separated by a graben.

WEST HAMPSHIRE*

Centering around T&NO 70, Jefferson County, and J. M. Duran Survey, Chambers County. **Means of Discovery:** Torsion balance, Glenn H. McCarthy, Inc., 1935. **Extent of Development:** McCarthy's Howth 1, T&NO 70, quit at 8015 ft in Frio, Jan. 20, 1936; showings of oil and gas. **Principal Leaseholders:** Sun Oil Co., Gulf Oil Corp., Humble Oil & Refining Co. **Remarks:** Closely ties in with Winnie, which see. Navarro Oil Co. and Hankamer's Welch 1, on Texas Co. farmout Lopez Survey, abnd 8845 ft Frio. A mile west of Navarro's Welch 1 Falcon-Seaboard's Powell 1, abnd 9264 ft, 1939.

WHITE RANCH*

Southeast of Seabreeze and ne of High Island, centering J. T. White and Gregg surveys. **Means of Discovery:** Reflection seismograph, Sun Oil Co., Magnolia Petroleum Co., 1934. **Extent of Development:** Magnolia's Hebert 1, abnd 9708 ft, 1934; show gas 9405 to 9407 ft. **Principal Leaseholders:** Glenn H. McCarthy, Inc., Sun. (See Seabreeze.)

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

LIBERTY COUNTY

BATSON PRAIRIE*

West of Batson field, centering L. Gedruf Survey. **Means of Discovery:** Reflection seismograph and torsion balance, Sun Oil Co., 1937. **Extent of Development:** Sun Oil Co.'s Jordan 1, L. Gedruf Survey, abnd 7960 ft, 1938. **Principal Leaseholder:** Sun. **Remarks:** Also known as Moss Hill.

CLEVELAND

4 mi se Cleveland, John Pleasants, C. Smith, T. Devers surveys. **Means of Discovery:** Surface indications; Humble Oil & Refining Co., torsion balance 1931; Gulf Oil Corp., also did geophysical work. **Discovery Well:** Gulf's Kirby 1, Pleasants Survey, 50 bbls 41-gr oil per hour through ch, from upper Cockfield 5716-5724 ft, Dec. 29, 1933. **Structure:** Regarded deep dome. No salt to 10,075 ft. **Producing Formations:** Upper Cockfield 5672-75 ft; 5716-5724 ft; 5820-5887 ft, and several wells had showings gas from 5500-5700 ft. Wilcox 9090-9100 ft. **Approximate Elevation:** 125-145 ft. **Average Sand Thickness:** 8 ft. **Productive Acres:** 700; 600 developed. **Daily Production, July 1, 1940:** 156 bbls from 9 wells. **Estimated Ultimate Recovery:** 2,750,000 bbls. **Production Through June, 1940:** 1,215,836 bbls. **Indicated Remaining Reserve:** 1,534,164 bbls. **Deepest Hole:** Gulf's Kirby C-21, drilled into Wilcox, stopped at 10,075 ft, pb and comp 9100 ft, opening a new sand, June, 1938. **Oil Outlets:** Magnolia Pipe Line Co., 3-in and 8-in. **Range of Gravity:** 40. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Gulf Oil Corp., Black Gold Corp. **Remarks:** Wells are spaced 933 ft apart and 466 ft from the lease line. Gas/oil ratio 1500 to 1. Third field in Gulf Coast to produce from Wilcox formation.

DAVIS HILL†

16 mi n Liberty, Santos Coy and Martinez Nos. 6 and 9 surveys. **Means of Discovery:** Elevation, gas, broken surface. **Structure:** Dome, cap rock 800 ft, salt 1200 ft. **Deepest Hole:** Wallace Oil Co.'s J. C. League 1, M. DeLos Santes Sur, 5612 ft, Oct., 1938. **Principal Leaseholder:** The Texas Co. **Remarks:** Only production has been that found in non-commercial quantities around 1000 ft.

DEVERS*

M. Whittington and HT&B 10 surveys 1½ mi n Devers. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co., 1929. **Extent of Development:** Humble's Sabine 1, Whittington Sur, abnd 5801 ft in 1930. Diadem Oil Corp.'s Pickett 1, HT&B 10, salt water 5170, 5671-6613 ft, dry 7506 ft, Feb., 1937, Humble's Sabine Tram 2, Cook Mountain 8775 ft, dry at 9515 ft, Nov., 1937. Moore 2, salt water 6500 ft, dry at 6500 ft, Dec., 1937. **Principal Leaseholders:** Humble, Woodley Petroleum Co., The Texas Co.

EASTGATE*

Between Esperson and North Dayton fields, centering H&TC No. 115. **Means of Discovery:** Amerada Petroleum Corp., Stanolind Oil & Gas Co., reflection seismograph, 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Stanolind, Amerada, Pan-American.

ESPERSON

6 mi sw Dayton, C. W. Fisher, D. L. Kokernot, M. Duncan, O. G. Gigstradt, A. M. Damron, C. C. Brunson and A. McNiel surveys. **Means of Discovery:** Torsion balance, Union Exploration Co., 1928. **Discovery Well:** H. S. Smith's Moores Bluff 1, 800 bbls, 3304-3320 ft, Aug. 15, 1929. **Structure:** Dome, top salt 7055 ft. **Producing Formations:** Miocene 2275-2398, 2730-2996, 3235-3350, 3573 ft, 3950-4460 ft; Jackson 5707-5752 ft, 5860-5872 ft, 6707-7077 ft; Upper Saline Bayou 7305-7624 ft, 7595-7612 ft, 7650-7725 ft, 8314 ft (gas). **Average Sand Thickness:** 15 ft. **Productive Acres:** 1000; 750 developed. **Daily Production, July 1, 1940:** 1864 bbls from 56 wells. **Estimated Ultimate Recovery:** 14,000,000 bbls. **Production Through June, 1940:** 6,181,721 bbls. **Indicated Remaining Reserve:** 7,818,279 bbls. **Deepest Hole:** General Crude Oil Co.'s Kay 1, M. Duncan Survey, dr ot 9375 ft in salt and abnd, June, 1935. **Oil Outlet:** Sun Pipe Line Co., 6-in. **Range of Gravity:** 21-32 except 7305-7624 ft, which is 35 degrees. **Rigs Running, July 1, 1940:** One. **Principal Leaseholder:** General Crude Oil Co. **Remarks:** In 1940 General Crude found gas sand at 8314 ft, junked Davis 9, sand discovery, comp Davis 21 as gas well.

FELECIA*

Centering around R. Burrell, T&NO Secs 12 and 13, 3½ mi se of Devers. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., Feb., 1935; Humble Oil & Refining Co., 1934. Shell Oil Co., Sun Oil Co., Independent Exploration Co. worked with reflection seismograph, 1935. **Principal Leaseholders:** Shell, Humble, Stanolind, Gulf, Sun.

HANKAMER

7½ mi s Devers, L. Barrow, G. Strangler, A. Allen, A. Weaver and H&TC 21 and 22 surveys. **Means of Discovery:** Mineral waters. Torsion balance, Gulf Oil Corp., 1926-1928. **Discovery Well:** Gulf's Boyt 1, H&TC 22, flowed 700 bbls 20-gr oil, 2674 ft, June 6, 1929. **Structure:** Dome, salt 7582 ft. **Producing Formations:** Miocene 2561-2698 ft; other sands 2900, 3600, 3800, 3950 to 4400, 4550, 4800 and 4900 ft. (Numerous lenticular sands, different gravities of oil.) Lower Marginulina-Frio at 5071 to 5162 ft. **Productive Acres:** 400. **Average Sand Thickness:** 29 ft. **Daily Production, July 1, 1940:** 761 bbls from 26 wells. **Estimated Ultimate Recovery:** 7,500,000 bbls. **Production Through June, 1940:** 5,872,909 bbls. **Indicated Remaining Reserve:** 1,627,091 bbls. **Deepest Hole:** Gulf's Bingle 1, se flank, tested oil 4616-4660 ft, and encountered showings to 7681 ft, salt; pb to 5150 ft as producer, Sept., 1935. **Oil Outlet:**

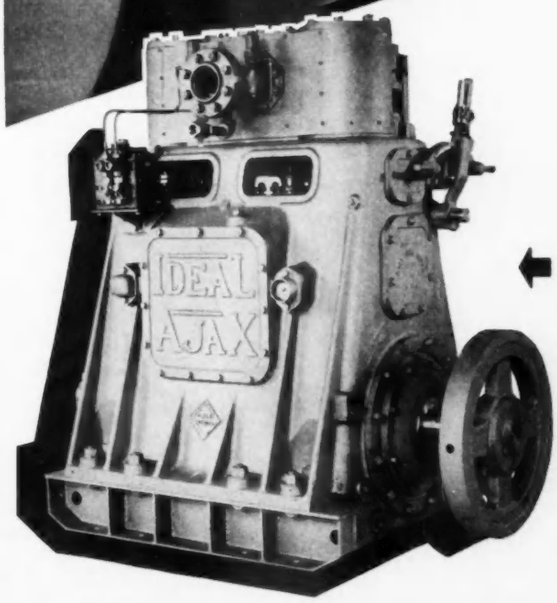
For Dependable Power For Deep Drilling . . .

ALLOY STEELS

NICKEL

CAST IRONS

The world's largest and heaviest oil well drilling rig, in service in the Rio Bravo, California, field, is driven by the 15″ x 14″ Ideal-Ajax steam engine illustrated above. Built for 500 lbs. steam pressure this unit, a product of Ajax Iron Works, Corry, Pa., is equipped with cylinders and cylinder heads of 1.25% Nickel, 0.25% chromium and 0.30% molybdenum cast iron having a tensile strength of 60,000 lbs. per square inch. For cylinder liners 1.25% Nickel 0.50% chromium cast iron is specified. Through long years of trouble-free service in oil fields the world over, high strength, wear resisting Nickel cast irons have convincingly demonstrated their dependability.



This 9½″ x 8″ vertical steam engine for oil field service, another product of the Ajax Iron Works, is also equipped with long-wearing Nickel cast iron cylinders. Other Nickel alloys contribute to the power and reserve of these Ideal-Ajax prime movers. Standard equipment includes crankshafts of heat-treated 1.25% Nickel alloy steel, casehardened cross-head pins of 1.50% Nickel steel, and miscellaneous stressed forged Nickel alloy steel bolts and studs. Throttle valve seats are Nickel bronze or Monel. The extra strength and wear-resistance of Nickel containing materials are safety factors which insure uninterrupted operation and long, trouble-free service.

➡ **Your consultation is invited regarding production and refinery applications of Nickel alloyed materials.**

THE INTERNATIONAL NICKEL COMPANY, INC.

67 WALL STREET
NEW YORK, N. Y.

Gulf Pipe Line Co., 8-in. **Range of Gravity:** 19-32. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Gulf, Wilson-Broach Oil Co., R. Olsen.

HARDIN

3 mi n Hardin, J. Robeson, H. B. Johnston, A. B. Hardin surveys. **Means of Discovery:** Surface geology; Jack Frazier torsion balance and reflection seismograph; Gulf Production Co. worked with pendulum. **Discovery Well:** Frazier's Buffon 2, July 23, 1935, 25 bbls per hour at 7663-73 ft, after pb from 7851 ft. **Structure:** Deep dome. **Producing Formations:** Epondiz Yeguaensis (Upper Saline Bayou), from 7547-95 to 7600-73 ft. **Approximate Elevation:** 30-60 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 3000; 2700 developed. **Daily Production, July 1, 1940:** 2941 bbls, 148 wells. **Estimated Ultimate Recovery:** 21,800,000 bbls. **Production Through June, 1940:** 5,130,820 bbls. **Indicated Remaining Reserve:** 16,669,180 bbls. **Deepest Hole:** North of the discovery well, Atlantic Refining Co. and Brace's Hardy 1, salt water 7500 ft, 7700 ft, and 8000 ft, dry 8110 ft, May, 1936. **Oil Outlets:** Magnolia Pipe Line Co., 4-in; Atlantic Pipe Line Co., 10-in. **Range of Gravity:** 37-56. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Jack Frazier, Humble Oil & Refining Co., Gulf Oil Corp., Atlantic Oil Producing Co., Amerada Petroleum Corp., Magnolia Petroleum Co., Shell Oil Co., Sun Oil Co., Crown Central Petroleum Corp., L. W. Wicks, Mills Bennett Production Co., Tide Water Associated Oil Co., The Texas Co., Stanolind Oil & Gas Co., Skelly Oil Co., Woodley Pet. Co., Pan-American Prod. Co., Strake Oil Corp., Halliburton Oil Prod. Co., Smith & McDannald, Arkansas Fuel Oil Co.

HEISKELL*

9 mi s Liberty; J. Dugat, T. Dorsett surveys. **Means of Discovery:** Torsion balance, Rycade Oil Corp., 1930; also later used seismograph. Reflection seismograph, Humble Oil & Refining Co., 1935-1936. **Extent of Development:** Rycade's Heiskell 1, Dugat Sur, abnd 5930 ft. **Principal Leaseholder:** Arkansas Fuel Oil Co.

HULL

J. Devore, S. Wickliff, I&GN 27 and 28, and C. Underton Surveys. **Means of Discovery:** Elevation, gas. **Discovery Well:** Republic Production Co.'s Fee 3, July 26, 1918, 1000 bbls, 1200 ft. **Structure:** Piercement dome, cap rock 350 ft, salt 700 ft. **Producing Formations:** Several wells pumping oil below the top of the cap rock at 400-450 ft, 578 and 850 ft. Miocene, Oligocene, Jackson and Claiborne sands at 1400 to 5500 ft and 5705 to 5806 ft. Sands discovered in 1933 at 4000 to 5228 ft identified as Jackson and Yegua. **Approximate Elevation:** 25-45 ft. **Average Sand Thickness:** 63 ft. **Productive Acres:** Deep, 150; 120 developed; shallow, 1400, 750 developed. **Daily Production, July 1, 1940:** Deep 3224 bbls from 79 wells; shallow 2015 bbls from 95 wells. **Estimated Ultimate Recovery:** Deep, 11,250,000 bbls; shallow, 85,000,000 bbls. **Production Through June, 1940:** Deep, 8,933,200 bbls; shallow, 81,534,141 bbls. **Indicated Remaining Reserve:** Deep, 2,316,800 bbls; shallow, 3,465,859 bbls. **Deepest Hole:** Gulf's Phoenix Dev. Co. 115, slight show 6250-85 ft, topped salt 8113 ft, abnd 8166 ft, salt, Feb., 1940. **Oil Outlets:** Humble Pipe Line Co., 6-in; American Pipe Line Co., 6-in; Sun Pipe Line Co., 4-in; Gulf Pipe Line Co., 6-in. **Range of Gravity:** 17-45, 850 ft, 37; 3350 ft, 21; 4550 ft, 25; 4700 to 5200 ft, 39. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholders:** Gulf Oil Corp., Republic Production Co., The Texas Co., Magnolia Petroleum Co., Empire Gas & Fuel Co., Phoenix Development Co., Mecom Oil Co., Houston Production Co., Humble Oil & Refining Co., Eclipse Oil Co., Miramar Corp., Sun Oil Co., Stanolind Oil & Gas Co., Hamil and Smith. **Heaving Shale:** Is found under Phoenix, Miramar, Baldwin, Hannah, Dolbear, Taylor tracts. From 100 to 800 feet found in Jackson and Claiborne. Top of heave 4037 ft, 5380 ft, 5758 ft, 6740 ft. Houston Oil Co. completed a well at 4800 ft after drilling 700 ft of shale.

KENEFLICK*

2 mi e Keneflick, centering in R. Green Survey. **Means of Discovery:** Gas seeps, geophysics, 1933. **Extent of Development:** C. S. Thomas and associates' Eicke 1, abnd 5334 ft, Oct., 1934.

KENO-EXCELSOR*

Northeast of Cleveland. H&TC 103, Wm. West, San Jacinto County. **Means of Discovery:** Surface and subsurface geology; reflection seismograph. **Extent of Development:** A. L. Maxwell's Hincliff 1, H&TC 105, quit at 5574 ft, 1935. Reported oil sands from 5434 to 5457 ft. Salt water at 5556 ft and abnd Sept., 1936. Peveto & Mayo's Palmer 1, J. S. Fenner Sur, abnd 6002 ft, salt water in Cockfield, Sept., 1935. The above two wells with several surrounding dry holes in San Jacinto County showed the existence of a high in the area and influenced geophysical campaign. Cockburn and Temple Hargrave's Cruse 1, dry at 5450 ft, Feb., 1936, salt water in Cockfield. Cockburn et al's Whitten 1, Wm. West Survey, top Cockfield 5181 ft gas odor 5271-72 ft, abnd 5610 ft, July, 1937. O. C. Carrey's Weaver 1, nw Cleveland, J. Devers Sur, top Cockfield 5651 ft, salt water 5871 ft, abnd 5985 ft, Sept., 1937.

MARTHA

NW Liberty, centering IG&N Sec 7. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Company, 1935-36. **Discovery Well:** Stanolind's Flowers 1, July 5, 1939, 241 bbls 41-gr oil daily, 5/32-in choke, 8104-08 ft. **Type of Structure:** Probable deep dome. **Approximate Elevation:** 79-92 ft. **Average Sand Thickness:** 5 ft. **Producing Formations:** Yegua 8088-92 ft, 8104-08 ft. **Producing Acreage:** 200; 100 developed. **Daily Production July 1, 1940:** 213 bbls from 6 wells. **Estimated Ultimate Recovery:** 1,440,000 bbls. **Cumulative Production, July 1, 1940:** 69,124 bbls. **Estimated Reserve:** 1,370,876 bbls. **Deepest Hole:** Discovery well dr 9109 ft, pb. **Oil Outlets:** Stanolind, Sun Oil Co. Pan-American Production Co., Gulf Oil Corp., Continental Oil Co., The Texas Co., Kirby Petroleum Co. **Range of Gravity:** 41. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholder:** Stanolind.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

MOSS BLUFF**

10 mi se Liberty. B. M. Spinks, R. O. W. McManus, J. Barry, N. D. Labadie and J. McFaddin surveys. **Means of Discovery:** Seismograph, Gulf Oil Corp., 1926. **Discovery Well:** Humble Oil & Refining Co.'s Sterling 6, Dec. 30, 1929, 800 bbls 32-gr oil 5500-5666 ft. **Structure:** Dome, cap rock 650 ft, salt 1170 ft. **Producing Formations:** 781-787 ft; Middle Oligocene 5500-5860 ft. **Productive Area:** 10 acres. **Deepest Hole:** Gulf's McFaddin A-4, se flank, abnd 7375 ft in 1932. **Production Through 1940:** 179,235 bbls. **Daily Production in 1940:** None, abnd 1933. **Principal Leaseholders:** Gulf, Humble, Texas Gulf Sulphur Co., Shell Oil Co. **Remarks: Heaving Shale:** Is found under McFaddin, Breeden, and Harf tracts in Vicksburg around 6600 ft.

NORTH DAYTON

7 mi nw Dayton. H&TC 118, 119, 120, 124, 125 and 135. **Means of Discovery:** Elevation, gas, indications. **Discovery Well:** Paraffin Oil Co.'s Fee 3, Sept. 1905, 5000 bbls, 800 ft. **Structure:** Dome, cap rock 580 ft, salt 800 ft. **Producing Formations:** Cap rock and Miocene at 400 to 1100 ft; Oligocene 4075 to 5188 ft. **Average Sand Thickness:** In shallow pay, unknown, in deep pay, 32 ft. **Productive Acres:** 850. **Daily Production, July 1, 1940:** 16 bbls from 3 wells. **Estimated Ultimate Recovery:** 2,600,000 bbls. **Production Through June, 1940:** 2,356,206 bbls. **Indicated Remaining Reserve:** 237,794 bbls. **Deepest Hole:** H. S. Smith et al's Kynerd 1, west flank, Section 31, dry at 5700 ft, Dec., 1930 in Yegua. **Oil Outlets:** Sun Pipe Line Co., 4-in, Humble Pipe Line Co. to Baytown. **Range of Gravity:** 22-33. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** D. J. Harrison, Gulf Oil Corp., Humble Oil & Refining Co., The Texas Co., Sun Oil Co. **Heaving Shale:** Is found under the Balderack tract in Oligocene.

NORTHEAST HANKAMER

Ne Hankamer field, centering T&NO 21. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Gulf, Sun Oil Co., Stanolind Oil & Gas Co.

RAYWOOD*

Between South Liberty and Hull centering J. Martin and Wm. Phelps surveys. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1936 and 1937. Reflection seismograph, Shell Oil Co., 1939. **Extent of Development:** Undrilled. 5 mi se Dayton in Gardner Survey, W. P. Luse staked Hlavaty 1, 9500-ft test, July, 1940. **Principal Leaseholder:** Sun.

RUMAYOR*

Se of Rumayor, centering A. and J. Cherry, J. F. De Rumayor surveys. **Means of Discovery:** Torsion balance, Atlantic Oil Producing Co., Magnolia Petroleum Co., Shell Oil Co., and Continental Oil Co., 1933-34. Reflection seismograph, Amerada Petroleum Corp., Magnolia and Texas, 1933-34. **Extent of Development:** Magnolia's Stewart 1, dry at 5890 ft, Oct., 1934; cored salt water sand in Cockfield, 5588 to 5591 ft. In San Jactinto County in J. F. De Rumayor Survey, Cockburn Oil Co.'s K. Moore 1 cored salt water in Cockfield, abnd 5053 ft, Feb., 1936. J. C. Mayo's K. Moore 1, salt water 5990 to 6020 ft in Yegua, abnd Oct., 1936; Dunman 1, quit in salt water at 6190 ft in Discorbis Yegua, Dec., 1936; Gibbs 1, dry 6020 ft, Sept., 1937; J. G. Mayo et al's Roberts 1, sw of Ace field, J. F. De Rumayor sur, cored salt water in Cockfield at 5070 to 5074 ft and from 5340 to 5350 ft, abnd 5350 ft, Sept., 1938.

SOUTH LIBERTY

3 mi s Liberty. M. G. White, D. Minchey, Wm. Duncan, Eliz. Munson surveys. **Means of Discovery:** Sulphur springs, gas escapes, oil seeps. **Discovery Well:** South Liberty Oil Co.'s Pickett 2, 25 bbls, 3206 ft, Jan., 1925. **Structure:** Dome, cap rock 350 ft, salt 500 ft. **Producing Formations:** Cap rock, Oligocene, Jackson and Yegua, 700 to 1292 ft; 2000 to 3900 ft, and from 4743 to 4996 ft. **Average Sand Thickness:** 100 ft. **Productive Acres:** 250. **Daily Production, July 1, 1940:** 502 bbls from 34 wells. **Estimated Ultimate Recovery:** 16,000,000 bbls. **Production Through June, 1940:** 15,705,000 bbls. **Indicated Remaining Reserve:** 294,940 bbls. **Deepest Hole:** Humble Oil & Refining Co.'s Welder 10, w flank, 4996 ft, Oct., 1934, new sand. **Oil Outlets:** Gulf Pipe Line Co., 8-in; Sun Pipe Line Co., 10-in; Humble Pipe Line Co., 8-in. **Range of Gravity:** 21-47. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Navarro Oil Co., Sun Oil Co., Bashara Oil Co., The Texas Co., Humble Oil & Refining Co., Gulf Oil Corp., Empire Gas & Fuel Co., Magnolia Petroleum Co., Fort Bend Oil Co., Stanolind Oil & Gas Co. **Heaving Shale:** Is found under Duessen, and Welder tracts in Cockfield. Top of heave 4026 ft.

SOUTHEAST CLEVELAND*

2 mi se Cleveland field, M. Smith and R. J. Faulk Survey. **Means of Discovery:** Reflection seismograph and gravitometer, Gulf Oil Corp., 1937. **Principal Leaseholder:** Gulf.

WEST HARDIN*

West of Hardin field, F. Hardin, R. Coleman, S. Strong, J. Hanney, Wm. Everett and Swail Surveys. **Means of Discovery:** Jack Frazier's Buffam 1, dry at 7511 ft, influenced buying across the Trinity river from the Hardin field. Reflection seismograph, Texas Co., 1935. **Principal Leaseholders:** Sun Oil Co., The Texas Co. **Extent of Development:** Texas Co.'s **Page 1,** J. Hanney Survey, cored salt water 8020 to 8030 ft, abnd 8030 ft. Aug., 1938. Woodley Petroleum Co.'s Barrett 1, R. Coleman Survey, abnd 8067 ft, May, 1939.

MATAGORDA COUNTY

ASHWOOD*

Near Ashwood, D. Rawls Survey. **Extent of Development:** Mayo Smith and McDanniel's Calhoun 1, top salt water sand 7480 ft, quit at 8006 ft in Frio, Feb., 1937. **Principal Leaseholders:** Skelly Oil Co., Humble Oil & Refining Co. and Sun Oil Co. **Remarks:** Regarded as the e portion of the Van Vleck high.

BAER RANCH*

Southwest of Sargent, S. Hoit Survey. **Means of Discovery:** Geophysics, Sterling Oil & Refining Co., 1935 and 1936. **Extent of Development:** Sterling Oil & Refining Co.'s Baer 1, dry at 6930 ft, Aug., 1936. **Principal Leaseholder:** Sterling Oil & Refining Co.

BIG HILL**

1½ mi e of Matagorda, Ira Ingram, Wm. Simpson surveys. **Means of Discovery:** Elevation, gas, sulphur water. **Discovery Well:** Wm. Cash and W. T. Goode's Mayes 1, 1904, 100 bbls, 840 ft. **Structure:** Dome, cap rock 825 ft, salt 1100 ft. **Producing Formations:** Oil was from cap rock, as is sulphur. **Productive Area:** 15 acres proven for oil were depleted in 1907. **Deepest Hole:** Marrs McLean's Gulftex 1, Ingram Survey, attempted blow-out 4435 ft, abnd, Feb., 1940. **Production Through 1907:** 210,906 bbls. Sulphur operations abnd after 12,300,000 tons produced. **Principal Leaseholder:** Texas Gulf Sulphur Co. **Remarks:** Referred to as Gulf. **Heaving Shale:** Is found under John Williams tract around 3271 ft. One well dr about 245 ft of heaving shale.

BLESSING

1¾ mi sw Blessing, centering I&GN No. 1. **Means of Discovery:** Geophysics by Gem Oil Co., and Humble Oil & Refining Co. **Discovery Well:** The Texas Co.'s Pierce 1, I&GN No. 1, flowed 40 bbls 56-gr distillate daily, ⅛-in choke, with 1,200,000 gas from 8290-8300 ft, tbg/csg pressure 2750/1400 pounds, June 26, 1940. **Type of Structure:** Probable deep dome. **Producing Formations:** Frio 8290-300 ft. **Average Sand Thickness:** 10 ft in discovery. **Estimated Producing Acreage:** 800; 40 developed. **Production July 1, 1940:** None, discovery well testing. **Estimated Ultimate Recovery:** 720,000 bbls. **Deepest Hole:** J. K. Dorance's Adamick 1, I&GN No. 7, dry at 8525 ft, 1938. **Gravity:** 56-deg. **Rigs Running, Sept. 1, 1940:** L. E. Lower's Wilkinson 1, 7550 ft e of discovery, second test, was an inactive location. **Principal Leaseholders:** Humble Oil & Refining Co., The Texas Co.

BUCKEYE

In and around Buckeye. East portions J. C. Keller and C. Cotton surveys. **Means of Discovery:** Surface geology. **Discovery Well:** United North & South Development Co.'s Stoddard 1, Buckeye townsite, Lot 53, Sept. 13, 1932, 1850 bbls 38.7-gr oil daily, ⅝-in choke from 7808-7926 ft. **Structure:** Regarded as very deep dome, although no dome material encountered. **Producing Formations:** Lower Marginulina-Frio zone at 7750 to 7926 ft. **Average Sand Thickness:** 60 ft. **Productive Acres:** 350; 150 developed. (Includes Wilson Creek.) **Daily Production, July 1, 1940:** 157 bbls from four wells. (Includes Wilson Creek.) **Estimated Ultimate Recovery:** 4,000,000 bbls. (Includes Wilson Creek.) **Production Through June, 1940:** 807,414 bbls. (Includes Wilson Creek.) **Indicated Remaining Reserve:** 3,192,586 bbls. (Includes Wilson Creek.) **Deepest Hole:** United North & South's Lambert 1, dr 10,570 ft Frio, comp pb depth 7903 ft, Dec., 1937. **Oil Outlet:** Scurlock Oil Co. **Range of Gravity:** 38.7. **Rigs Running July 1, 1940:** 1. **Principal Leaseholder:** United North & South. **Remarks:** See Wilson Creek, a separate structure 2 mi to west. In most available data Buckeye and Wilson Creek are treated as a single field.

BUTTERMILK SLOUGH

West of Palacios, near Turtle Bay, J. Duncan Survey. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1936. **Discovery Well:** Sun's Cavalin 1, July 20, 1939, 35 bbls fluid daily, 30 percent salt water, 45-gr, 7850-60 ft. **Type of Structure:** Believed deep dome. **Producing Formations:** Frio 7850-60 ft. **Average Sand Thickness:** 10 ft. **Productive Acreage:** 100; 50 developed. **Average Daily Production July 1, 1940:** 10 bbls from 1 well. **Estimated Ultimate Recovery:** 200,000 bbls. **Cumulative Production July 1, 1940:** 5446 bbls. **Estimated Reserve:** 194,554 bbls. **Deepest Hole:** Discovery well dr to 9582 ft, pb. **Oil Outlet:** Scurlock Oil Co. **Rigs Running July 1, 1940:** None. **Principal Leaseholder:** Sun. **Remarks:** The discovery well was tested at 9300 ft, shwd gas, sw, and dist, at 8940 ft, shwd sw; at 8620 ft made 48.9-gr oil and 1,942,000 feet gas, died, temp abnd June, 1939, wo and comp 7860 ft.

CITRUS GROVE‡

Near Collegeport, D. Yeamans, DeMoss, and Arthur surveys. **Means of Discovery:** Reflection seismograph, Sun Oil Co. **Type of Structure:** Believed deep dome. **Discovery Well:** Sun's Savage 1, July 15, 1939, 678,000 gas daily, Miocene 4143 ft. **Producing Formations:** Miocene 3750-60 ft, 4093-4143 ft. **Productive Acreage:** 1800, all gas. **Estimated Ultimate Recovery:** Gas; with 3 wells, no market. **Deepest Hole:** Discovery dr to 5810 ft. **Principal Leaseholder:** McDannald Oil Co.

COLLEGEPORT*

Four mi n Collegeport, J. C. Hall, A. Farquaha and W. Hall surveys. **Means of Discovery:** Reflection seismograph, Geo. Strake, 1934. Torsion balance and reflection seismograph, Stanolind Oil & Gas Co. Continental Oil Co. worked with geophysical instruments Humble Oil & Refining Co. worked with torsion balance, 1933. Salt Dome Oil Corp. & Hamman Exploration Co. each worked area with reflection seismograph, 1939. **Principal Leaseholders:** Geo. Strake, Stanolind Oil & Gas Co., Glenn H. McCarthy. **Remarks:** Lack of interest in the area due to heaving shale.

HAWKINSVILLE**

Northeast Hawkinsville, Kingston & Powell, Thos. Williams surveys. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1928. Geophysical work, Sun Oil Co., 1935. **Discovery Well:** Gulf's Craig 1, July, 1925, abnd in cap rock at 286 ft. Sun Oil Co.'s Craig 1, 16 bbls, 30.4-gr oil per hour after perforating casing at 5150 to 5175 ft. Well later made salt water and after reworking, was comp as pumper. Discovery was only well to produce. **Type Structure:** "Mushroom" dome, cap rock 100 ft, salt 600 ft. **Producing Formations:** Miocene, 5150 to 5175 ft. **Average Sand Thickness:** 25 ft. **Productive Acres:** 20. **Daily Production, July 1, 1940:** None. Field abandoned. **Estimated Ultimate Recovery:** 3816 bbls. **Production Through June, 1940:** 3816 bbls. **Deepest Hole:** Sun's Craig 2, salt 796 to 2120 ft and at 3103 ft, dr to 6905 ft, abnd Sept., 1937. **Gravity Oil:** 30.4. **Principal Leaseholders:** Sun, Humble Oil & Refining Co. **Heaving Shale:** Under Craig tract in Marginulina. Top of heave 5814 ft and over 510 ft has been penetrated.

JUANITA*

Three mi e Juanita, between Markham and Buckeye oil fields, R. Graves, J. Partin and D. Etherton surveys. **Means of Discovery:** Torsion balance, Gulf Oil Corp., 1933, Republic Production Co., 1934. **Principal Leaseholder:** Gulf.

MAD ISLAND

Four mi s Collegeport, G. Wheelwright Survey. **Means of Discovery:** Torsion balance, Watts Oil Co., 1930. The Texas Co.'s reflection, 1935-36 failed to indicate structure to west. **Extent of Development:** Watts Oil Co.'s Titus 1, abnd in shale, July, 1930, 3509 ft.

MARKHAM

Three mi nw Markham, Wm. Hadden, Hny. Parker surveys. **Means of Discovery:** Elevation, gas. **Discovery Well:** Hardy Oil Co.'s Hudson 1, 3600 bbls, 1734 ft, Jan. 6, 1908. **Structure:** Dome, cap rock 1500 ft. **Producing Formations:** Miocene at 936, 1900, 2350, 3200, 3400, 3600, 3800, 4100 and 4350 ft. **Approximate Elevation:** 40-60 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 240; 210 developed. **Daily Production, July 1, 1940:** 918 bbls from 30 wells. **Estimated Ultimate Recovery:** 11,000,000 bbls. **Production Through June, 1940:** 7,932,073 bbls. **Indicated Remaining Reserve:** 3,067,927 bbls. **Deepest Hole:** C. B. Hamill's Elkins 2, abnd in heaving shale, 6044 ft, June, 1932, in Vicksburg. **Oil Outlet:** Texas Pipe Line Co., 6-in. **Range of Gravity:** 25-40. **Rigs Running, September 1, 1940:** Pan-American Production Co.'s Sisk 1-B, Atherton Survey, 8100 ft s flank semi-wildcat, 2000 ft from production. **Principal Leaseholders:** Rycade Oil Corp., Ike Laughlin et al, E. M. Hamill, C. B. Hamill, Humble Oil & Refining Co., Jno. Deering, L. P. Smith. The Texas Co., United North & South Development Co., Powers Prod. Co., Harrison & Abercrombie. **Remarks:** **Heaving Shale:** Is found under Carlson, Fairchild, Kountz, Hudson, Sisk, Elkiss, and Northern Irrigation tracts in Vicksburg and Jackson. Top of heave usually around 2000 ft and 4950 ft. About 500 ft of heaving shale has been penetrated.

MATAGORDA*

North of Matagorda, Selkirk Island, L. Lassasierre Survey. **Means of Discovery:** Gas shows in Colorado river; geophysical work, 1934-1935. Reflection seismograph, The Texas Co., 1937. **Extent of Development:** Gulfstream's Zyprian 1, L. Lassasierre Survey, gas show 3240-49 ft, abnd 4006 ft, Feb., 1940; taken over by Tobago Oil Corp., deepened to 4510 ft, abnd April, 1940. **Principal Leaseholders:** Sun Oil Co., Humble Oil & Refining Co., Stanolind Oil & Gas Co., The Texas Co., Gulf Oil Corp., Felmont Oil Co. **Remarks:** Also known as Wild Crow Island or McNabb Island.

McCROSKEY (Armour)

North of Van Vleck field centering around I&GN 7, D. Fenton surveys. **Means of Discovery:** Reflection seismograph by Petty Exploration Co. for Pierce Estate in 1937. Skelly Oil Co. shot the area and failed to find structure. **Discovery Well:** Pierce Estate's Fee 1, Feb. 18, 1938, 11 bbls 33-gr oil per hour, 3/16-in choke, 6620 to 6624 ft, 7191-96 ft. **Type Structure:** Nosing. **Approximate Elevation:** 70 ft. **Producing Formations:** Marginulina-Frio 6614 to 6624 ft. **Average Sand Thickness:** 4 ft. **Productive Acres:** 500; 100 developed. **Daily Production, July 1, 1940:** 56 bbls from 3 wells. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through June, 1940:** 106,552 bbls. **Indicated Remaining Reserve:** 894,484 bbls. **Deepest Hole:** Pierce Estate's Fee 6-A, dld 7531 ft, disc new sand at 7176-97, 1939. **Oil Outlet:** Tank cars. **Gravity Oil:** 6620 ft, 33; 7191 ft, 37. **Rigs Running, July 1, 1940:** None. **Principal Leaseholder:** Pierce Estate Fee land.

MIDFIELD*

Centering I&GN Sections 3, 11 and P. J. Poole surveys, 3½ mi nw Midfield. **Means of Discovery:** Torsion balance, reflection seismograph, The Texas Co., 1934. **Extent of Development:** Marathon Oil Co.'s Kountz 1, cored salt water in Frio 6127 to 6161 ft, dry at 7000 ft in Frio, Aug., 1936. The Texas Co.'s Kountz 1, P. J. Poole Survey, salt water 5839 to 6034 ft, abnd 6525 ft, May, 1936. **Principal Leaseholders:** The Texas Co., Marathon Oil Co. **Remarks:** J. K Dorrance worked with reflection seismograph in this area in 1937 and 1939.

NORTH MARKHAM

North of Markham centering Yarbourough and I&GN No. 2 surveys. **Means of Discovery:** Reflection seismograph, Ohio Oil Co., 1937. **Discovery Well:** Ohio's Cornelius, Sept. 13, 1938, 132 bbls fluid daily, 92 percent 34-gr oil, ⅛-in choke, 7727-30 ft. **Type of**

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

Structure: Believed deep dome. **Approximate Elevation:** 70 ft. **Producing Formation:** Frio 7702-7730 ft. **Average Sand Thickness:** 10 ft. **Productive Acreage:** 500; 40 developed. **Daily Production, July 1, 1940:** 75 bbls from 2 wells. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Cumulative Production July 1, 1940:** 61,793 bbls. **Estimated Reserve:** 2,938,207 bbls. **Deepest Hole:** Ohio's Carlson 2, abnd 8741 ft, Aug., 1939. **Oil Outlet:** The Texas Co. **Rigs Running Sept. 1, 1940:** Ohio Oil Co. was preparing to drill third test. **Principal Leaseholder:** Ohio.

PALACIOS

Near Palacios, L. Goodwin Survey. **Means of Discovery:** Reflection seismograph by Hoard Exploration Co. for G. W. Strake. Was later shot by Sun Oil Co., 1934, and then worked by Glenn H. McCarthy. **Discovery Well:** McCarthy's Foley 1, March 31, 1937, 175 bbls fluid, 30 percent 53-gr distillate, ¼-in choke, from perforated csg at 7830 to 7880 ft. **Type Structure:** Regarded deep dome. **Approximate Elevation:** 40-60 ft. **Producing Formations:** Frio at 7830 to 7842 ft, 7875 to 7895 ft, 9245-75 ft. **Average Sand Thickness:** 10-15 ft. **Productive Acres:** 360; 80 developed. **Daily Production, July 1, 1940:** 12 bbls from 1 well. **Estimated Ultimate Recovery:** 200,000 bbls. **Production Through June, 1940:** 122,431 bbls. **Indicated Remaining Reserve:** 77,569 bbls. **Deepest Hole:** Sun's Bayshore 1, gas sand 7600 ft, set 9⅝-in, 8747 ft; 7-in, 11,327 ft, perforated 9715-50 ft, showed salt water; pb perforated 9245-76 (20 shots) well blew out, caught fire, killed and comp. Jan. 13, 1938. 350 bbls daily, 54-gr, 28,000,000 ft gas. This well showed 6200 pounds pressure on surface gauges, one of the highest recorded. **Oil Outlets:** Tank car and barge. **Gravity:** 7830-7895 ft; 9245-75 ft, 54. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Glenn H. McCarthy, Atlantic Refining Co.

PIERCE ESTATE*

Three mi s Pledger, I. Foster Survey. **Means of Discovery:** Showed negative in geophysical work by Humble Oil & Refining Co., 1932; but Humble and Gulf Production Co., holding 10,000-acre block, drilled two deep tests despite geophysical evidence. **Extent of Development:** Humble and Gulf's Pierce Estate 1, Foster Survey, quit at 7323 ft early 1933. Pierce Estate 2, Wm. C. Carson Survey, quit in shale at 8115 ft, June, 1933.

PODO*

Southwest Armour field, centering Rawls-Stout Survey. **Means of Discovery:** Seismograph, surface indications, Pierce Estates Co., 1939. **Extent of Development:** Pierce Estate's Fee 1-P, sw 6700, 6800, 8200 ft, abnd 8214 ft, May, 1938; Fee 2-P sw 6853, abnd 7820 ft, June, 1939. **Principal Leaseholders:** Pierce Estates Co.

SARGENT*

Four mi sw Hawkinsville dome, Van Dorn and Bayless and G. Penticost surveys. **Means of Discovery:** Surface indications; Shell Oil Co., seismograph, 1929. The Texas Co. shot with reflection from Sargent to Cedar Lane, 1935. Stanolind Oil & Gas Co.'s torsion balance crew ran a line from Cedar Lane to Sheppards Mott and Wadsworth. **Remarks:** SE of Sargent, Humble Oil & Refining Co. and Gulf Oil Corp. worked with torsion balance in 1932. Shell Oil Co. and Humble did work with reflection in 1933.

SHEPPARD'S MOTT**

Six mi sw Cedar Lane, D. McCarty, F. Fry, J. Dwyer, S. R. Fisher surveys. **Means of Discovery:** Surface evidence; showings in old wildcats; torsion balance, refraction seismograph, North American Exploration Co. for H. C. Cockburn, 1928. Torsion balance showed as large dome with local highs on north and south ends. **Discovery Well:** H. M. Smith Corp.'s Wadsworth 1, 5 bbls day, 39.2-gr oil from Frio 8852 ft, July 7, 1935. **Structure:** Deep dome, but no dome material encountered. **Producing Formations:** Lower Marginulina-Frio at 8852 ft. **Approximate Elevation:** 20-40 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 20. **Production Through June, 1940:** 2000 bbls. Field abnd. **Deepest Hole:** Continental Oil Co.'s Hawkins 2, topped sand 8830, dr 9210 ft, abnd, Sept., 1937. **Range of Gravity:** 39.2. **Principal Leaseholders:** H. C. Cockburn, H. M. Smith Corp., Helmerick & Payne, Stanolind Oil & Gas Co., Texas Gulf Producing Co., Superior Oil Producing Co. **Heaving Shale:** Under Hawkins and Wadsworth tracts in Discorbis zone. From 319 to 1880 ft of heaving shale has been penetrated. **Remarks:** Cockburn's Hawkins 2 on n dome made a few bbls daily 37-gr oil, Dec., 1930, and should perhaps be accredited the discovery.

SIMPSONVILLE—Robbins Ranch

North of Citrus Grove and e of Simpsonville, C. H. Vanderveer Survey. **Means of Discovery:** Reflection seismograph, G. Coates, 1936, Sun Oil Co., 1937. **Extent of Development:** Sun's Robbins 1, dr to 10,160 ft, abnd June, 1938. **Principal Leaseholder:** Sun.

SOUTH BAY CITY (Hamman)

1½ mi se Bay City, E. Hall, J. T. Belknap, and J. S. Cleveland surveys. **Means of Discovery:** Reflection seismograph, Hamman Exploration Co., 1934 and 1935. **Discovery Well:** Hamman's Cleveland 1, March 1, 1936, 25 bbls 38-gr oil first hour from 9361½ to 9370 ft. **Structure:** Deep dome. **Producing Formations:** Marginulina and Frio 8100-60 ft, 9154-94 ft, 9209-30 ft, and 9310 to 9370 ft. **Approximate Elevation:** 45 to 60 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 1000; 600 developed. **Daily Production, July 1, 1940:** 2772 bbls from 42 wells. **Estimated Ultimate Recovery:** 30,000,000 bbls. **Production Through June, 1940:** 2,103,570 bbls. **Indicated Remaining Reserve:** 27,896,430 bbls. **Deepest Hole:** Hamman's Crooker 1, workover, cored over 100 ft of sand at 10,000 ft, believed to be Old Ocean sand, dr to 10,497 ft, pb and comp 8148 ft, June, 1938. **Oil Outlet:** Texas Pipe Line Co.'s 6-in. **Gravity Oil:** 8131-35 ft, 36.7; 8154-60 ft, 41; 9155-75 ft, 55; 9209-50 ft, 40; 9361-9370 ft, 35. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Hamman, Pan-American Production Co., Smith & McDannald, Atlantic Ref. Co. **Remarks:** Often referred to as Hamman field. Hamman Exploration Co. has a gasoline plant in the field.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

SUGAR VALLEY*

4 mi e Van Vleck, centering P. Barnett and A. Sojourner, F. George, B. Berry, and Williams surveys. **Means of Discovery:** Reflection seismograph, The Texas Co., Skelly Oil Co., 1936. **Extent of Development:** Royal Oil Co.'s Ewing 1, salt water in Frio, dry 9130 ft, Aug., 1937, Texas Taylor 1, Pettus Survey; Taylor 2, Pettus Survey; both abnd below 9000 ft, 1939. Sept. 10, 1940, Ohio Oil Co. was preparing to drill Blackburn 1, 9500 ft Frio test in Pettus Survey. **Principal Leaseholders:** Skelly Oil Co., The Texas Co., Felmont Oil Corp., Royal Oil Co., Ohio Oil Co.

VAN VLECK (Bay City)

1½ mi nw Van Vleck, Maria Cummins and I&GN 10, surveys. **Means of Discovery:** Surface indications; old shallow wildcats, reflection seismograph, DeGolyer et al, 1932. **Discovery Well:** Skelly Oil Co.'s Cobb 1, M. Cummings Survey, 120 bbls, 56-gr oil daily, ⅜-in choke, 7023-7076 ft, March 19, 1934; was drilled deeper and completed from 7465-7468 ft, for 159 bbls daily, Nov. 6, 1935. **Structure:** Probably deep dome, no salt reached. **Producing Formations:** Oligocene at 7023-7076 ft, 7461-7468 ft, 7474-7510 ft, 7675-79 ft, 8217-8261 ft in Marginulina and Frio. **Approximate Elevation:** 55 to 75 ft. **Average Sand Thickness:** 35 ft. **Productive Acres:** 1300; 1160 developed. **Daily Production, July 1, 1940:** 2048 bbls from 19 wells. **Estimated Ultimate Recovery:** 35,000,000 bbls. **Production Through June, 1940:** 3,317,865 bbls. **Indicated Remaining Reserve:** 31,682,135 bbls. **Deepest Hole:** Skelly's Cobb B-14, dr to 11,465 ft, pb and comp 7496 ft, Jan., 1938. **Oil Outlet:** Texas Pipe Line Co., 4-in. **Range of Gravity:** 35-36. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Skelly and DeGolyer et al on 50-50 basis. **Remarks:** Sometimes referred to as Bay City field. The field has six oil sands. Wells are spaced 466 ft from lease line and 933 ft apart. Two strings of casing are set, including a 1400 ft string of surface. This applies to 7500-ft wells. If wells go below 7500 ft a third string is set. Gas/oil ratio is 2000/1.

WEST MARKHAM*

7 mi w of Markham on Wharton-Matagorda County line, I&GN 21, and ET 103. **Means of Discovery:** Torsion balance, Eby & Milner, 1934. **Principal Leaseholders:** The Texas Co., Eby & Milner. **Remarks:** This block is closely connected with the Midfields area. Humble Oil & Refining Co. has a block north of this prospect in Wharton County.

WILSON CREEK

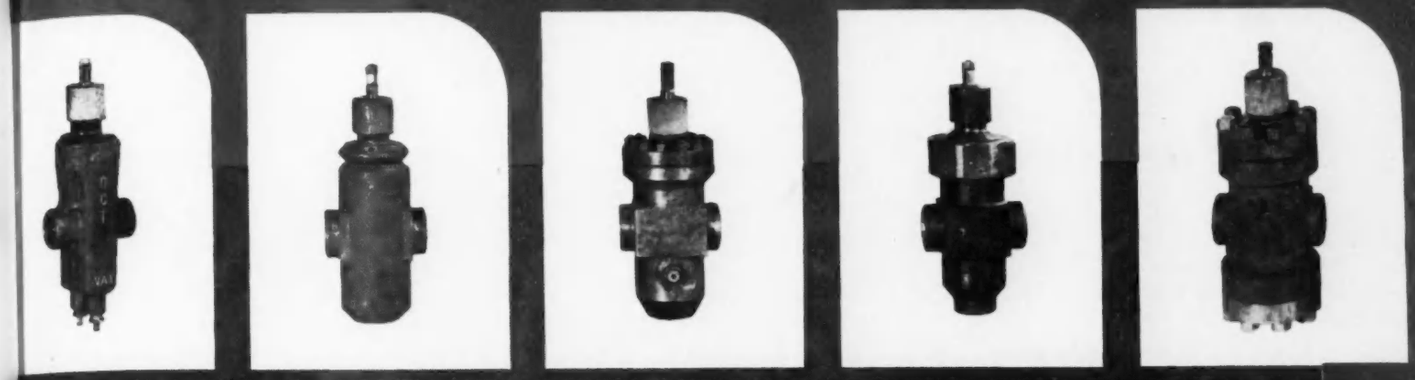
Southwest of Buckeye field, J. B. & M. Cotton surveys. **Means of Discovery:** Reflection seismograph by United North & South Development Co. This structure was found while rechecking Buckeye. **Discovery Well:** United North & South's Stoddard 1, June 14, 1937, 7 bbls, 52-gr distillate per hour, ¼-in choke, along with 2,000,000 cu ft of gas daily, at 9975 ft. **Type of Structure:** Nosing. **Approximate Elevation:** 33-53 ft. **Producing Formations:** Frio formation of Oligocene at 7903 ft, and 9925 to 9975 ft, 9990-10,058 ft. **Average Sand Thickness:** 25 ft. **Productive Acres:** 40. **Daily Production, July 1, 1940:** Included with Buckeye. **Estimated Ultimate Recovery:** Included with Buckeye. **Production Through June 1, 1940:** Included with Buckeye. **Indicated Remaining Reserve:** Included with Buckeye. **Deepest Hole:** Barnsdall Oil Co.'s Stoddard 1, 1700 ft nw discovery, blew out 10,280-298 ft, July, 1940, killed, pb 7950 ft, dr 10,254 ft, attempting to complete Sept. 10, 1940. **Oil Outlet:** Scurlock Oil Co. **Gravity Oil:** 39-56. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholder:** United North & South Development Co., Barnsdall Oil Co.

MONTGOMERY COUNTY

CONROE

4 mi se Conroe; following surveys: D. W. Collis, L. W. Weeden, W. B. Bridges, Evantha Scurry, Robt. Kuykendall, Jno. Davis, W.C. R.R. C. A-645, C. T. Darby, D. McIntyre, L. A. Lang, H. B. Littlefield, Jno. McHorse, I&GN A-649 and 650, J. G. Watson, W. P. McComb, M. W. Real, T. C. Howell, A. McCown A-370, A. M. Folk, Theo. Slade, Jos. House A-250, G. A. West, T&NO Nos. 5, 13, and 15, J. Massey, W. S. Rhodes A-764, C. B. Stewart, H. M. Crighton, S. Y. Sitton, Ransom House, W. Strickland, T. M. Wiggins, W. F. Stewart, E. C. Manning, W. S. Rhodes A-763, C. E. Granger, S. H. Bryan, W. C. C. Lynch, Alfonso Steel, Gowan Harris, Jno. Bricker, Ashby James, T&NO Nos. 3 and 9, G. W. Wagers, J. F. Springfield, L. Smith and G. Harris. **Means of Discovery:** Surface indications, refraction seismograph and "trend play" instrumental in drilling of discovery well in northeast part present proven area. Prior, test geophysics had indicated the structure, showing apex near center of present proven area and about 2 mi se discovery; hence it was thought at first that geophysical prospect might be separate from field opened by Strake. **Discovery Well:** G. W. Strake's South Texas Dev. Co. 1, Dec. 13, 1931, 200 bbls gasoline and much gas, 1900 lbs closed in pressure, sand at 4981-4991 ft. **Structure:** Very large domal structure about 6 mi in diameter, possibly a deep dome although no dome material has been encountered. Has local highs, separated by saddle, on e and w sides, with oil sands arching over them; while between n and s ends several faults and a graben of large displacement run across field. **Producing Formations:** Minor oil-gas sand shortly below top of Cockfield (top zone of Yegua formation, Claiborne series of Eocene-Tertiary) around 5000 ft; and main oil sand lower in Cockfield at 5000 to 5250 ft, with depths of most wells from 5100 to 5150 ft. Oil and gas showings occur also in shallower sands. **Approximate Elevation:** 160-210 ft. **Average Sand Thickness:** 30 ft. **Productive Acres:** 19,000; 18,900 developed. **Daily Production, July 1, 1940:** 26,164 bbls from 987 wells. **Estimated Ultimate Recovery:** 700,000,000 bbls. **Production Through June, 1940:** 112,046,094 bbls. **Indicated Remaining Reserve:** 587,953,906 bbls. **Deepest Hole:** E. I. Thompson's Granger 1, T&NO 14, dr to 9040½ ft, abnd

Evolution of the
O·C·T CYLINDER GATE VALVE



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Eight years ago our engineers conceived the idea of a cylinder type gate valve which, if perfected, would eliminate several common objections to conventional gate valves and yet be commercially feasible. Late in 1939 a number of these valves were placed in service. On a gas-distillate well with 3100 lbs. flow pressure, the O-C-T Cylinder Gate Valve made a complete shut-off. Other O-C-T Valves have been in service on mud lines for eight months and have drilled more than 40,000 feet under 1500 lbs. pressure without sign of *leakage*. To date, not a single O-C-T Cylinder Gate Valve has failed to live up to our claims. Their performance has exceeded even our own expectations.

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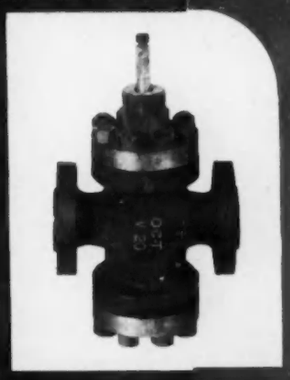

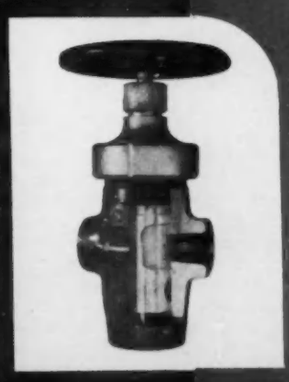

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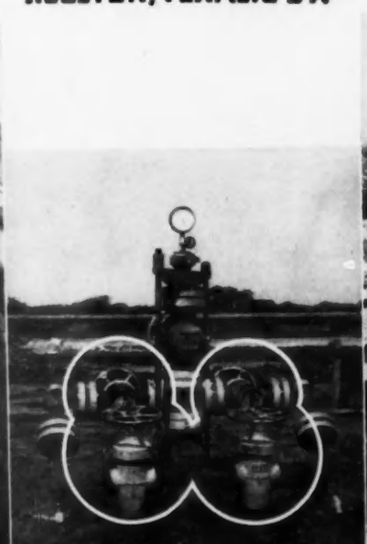
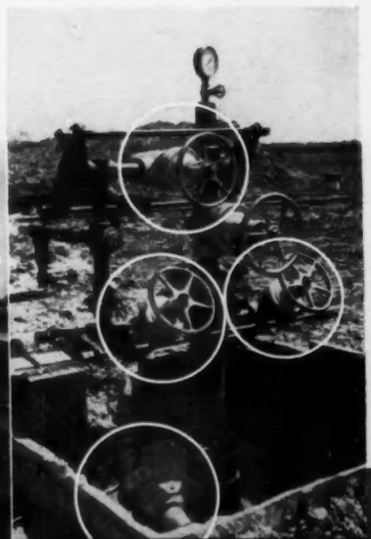
QUALITY O-C-T PRODUCTS
HOUSTON, TEXAS. U·S·A

Selling Through Supply Stores

O-C-T Type "V-3" two-inch 6000-lbs. test screwed Valves on a Christmas tree in the Village, Arkansas, field.



O-C-T Type "V-3" two-inch 6000-lbs. test flanged Valves on a Christmas tree in the Vanderbilt, Texas, field.



O-C-T Type "V-3" two-inch 6000-lbs. test screwed Valves on a Christmas tree in the Petrobanks, Texas, field.

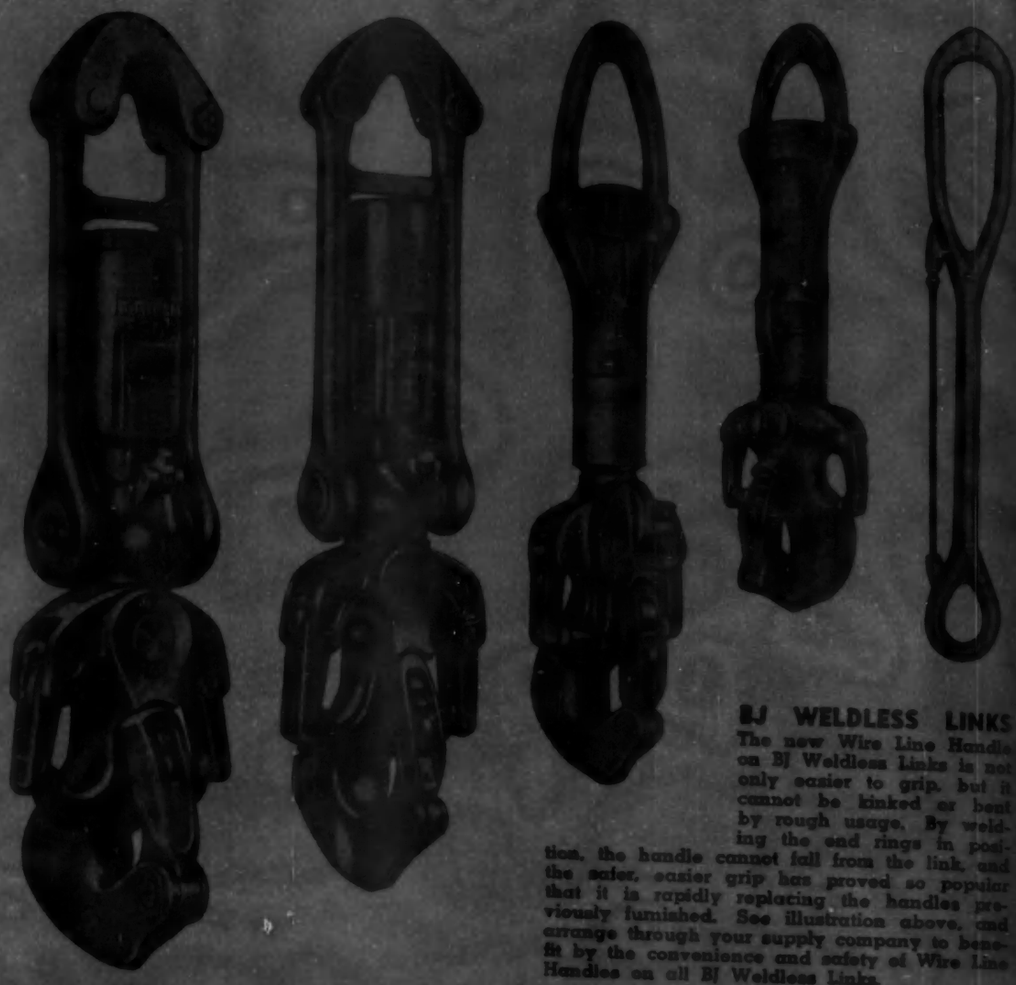
Illustrations show some of the different steps in continuous improvements in design of the O-C-T Type "V-3" Cylinder Gate Valve. Lower section (immediately above) shows perfected Valve in closed position.

BJ TRIPLEX HOOKS

The "triplex" — triple hook — design has been so universally adopted as standard that thousands of BJ TRIPLEX HOOKS are in service today. With one lower hook for the swivel bail, and a separate side hook for each elevator link, there is no need to crowd all three into a single open-type hook — a practice that sets up those unbalanced strains and stresses that lead to metal fatigue and often to early failure of the hook in service. The links are suspended vertically to connect under the elevator trunnions, and the resultant effortless opening and closing of the elevator speeds up all operations.

BJ Triplex Hooks are made in four sizes, (as illustrated from left to right): the "300" for the longest, heaviest strings of drill pipe or casing, where 300-ton loads are present; the "150" for wells of average depth where 150-ton loads are handled; the "100" for use in "slim hole" drilling; and the "50" which is very popular on portable rigs and in short derricks.

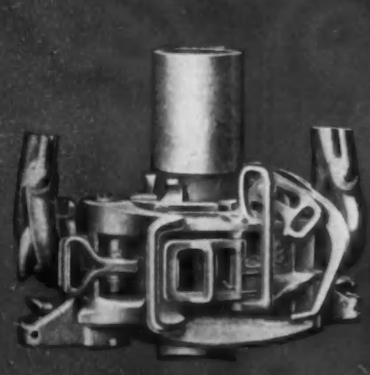
See YOUR supply company, or ask any BJ Office for details.



BJ WELDLESS LINKS

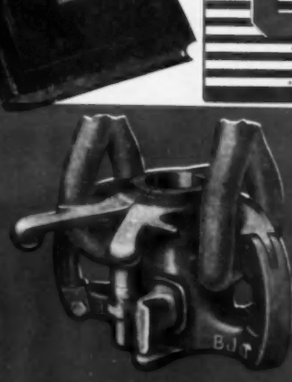
The new Wire Line Handle on BJ Weldless Links is not only easier to grip, but it cannot be kinked or bent by rough usage. By welding the end rings in position, the handle cannot fall from the link, and the safer, easier grip has proved so popular that it is rapidly replacing the handles previously furnished. See illustration above, and arrange through your supply company to benefit by the convenience and safety of Wire Line Handles on all BJ Weldless Links.

BJ



BJ SIDE DOOR SLIP CASING ELEVATOR

This elevator handles the longest, heaviest strings of casing by means of four long slips which grip on the casing at any desired point so that no weight is carried by the coupling or collar. It has many times the capacity required to handle any string of casing ever landed, yet is handled by one man who closes the elevator on the pipe and sets the slips wherever desired. The elevator is easily removed while cement is setting.



BJ TYPE A CENTER LATCH ELEVATOR

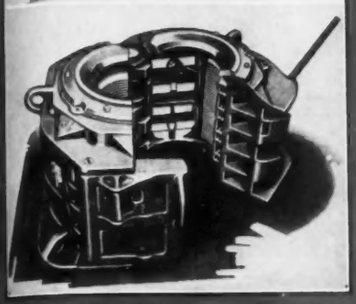
Here's an elevator designed and built for long, hard service in handling collar type drill pipe with heavy duty equipment. The body is fully heat treated to withstand, without upsetting, the pounding of hardened tool joints contacted at high speed. Long, guarded operating horns speed up handling with safety, and the protected latch cannot be knocked open accidentally. This is the drill pipe elevator for heavy loads and hard use.

BJ TYPE LA CENTER LATCH ELEVATOR

For handling loads varying from 60 to 100 tons, this light-type elevator offers all the features of safety and convenience provided by the heavier Type A (at left). The body is fully heat treated; the new curved BJ Link Blocks are used; and the entire elevator exactly meets the need for a light, fast-operating elevator for lighter loads, at a considerable saving in cost.

BJ TYPE G CENTER LATCH ELEVATOR

This popular elevator handles the longest strings of external upset drill pipe rapidly and safely, without using lifting plugs. The contour of the inner bore fits the standard 18° angle external upset and it lifts the pipe by the external upset. The two rugged halves are joined by a strong hinge pin in the rear, and a massive stirrup-type latch fits over lugs in the front so that no strain is imposed on the latch pin.



BJ CASING SPIDER

Here is a modern BJ development which provides new safety and speeds up operations when setting strings of casing of any length. It is approved on sight by experienced operators because . . . . It Grips Instantly and Positively—It Operates Rapidly and Easily—It is Readily Removed by Opening the Door.

The rugged body consists of two halves which are joined by a strong hinge pin at the rear, and by a massive stirrup-type latch which fits over lugs at the front, and is double-locked for safety.

The four extra-long, flat-back slips are held in retracted position when the lever is lowered (see upper view) and grip instantly and uniformly when the lever is released. Designed with a flat back, the slips provide the same gripping action regardless of their position in the body, and do not crush or bottle-neck the pipe even when extremely long and heavy strings are being landed.

A top guide plate prevents the casing from dragging across the face of the slips while being lowered. The BJ Casing Spider is made in one body size with separate sets of slips for each casing size from 5½" to 13⅜" A.P.I. Only one bolt in each slip is removed when changing slips, (as shown in lower view at left) — the operating mechanism is not disturbed.

BJ SHOCK ABSORBING KELLY BUSHING

A rubber cushion fits into the corrugated inner bore of the body of this modern Kelly Bushing, and absorbs the shock as the rotating kelly moves downward smoothly and evenly through anti-friction liners. The upper illustration at left shows how the oil-resistant rubber cushion (2) fits between the matching corrugations of the slips (3) and the body (1) and absorbs the driving torque; radial thrust is taken by metal bearing surfaces at the top and bottom of the body. Ask your supply company for all details, or look on Page 498 of the 1940 Composite Catalog.

TOOLS

PETROLEUM EQUIPMENT SUPPLIERS ASSOCIATION MEMBER

BYRON JACKSON CO.

6247 Navigation Blvd., HOUSTON, TEXAS

LOS ANGELES • NEW YORK

BJ Type LG CENTER LATCH ELEVATOR

For use on portable rigs and elsewhere when heavier strings of 2⅞" or 3½" external upset drill pipe are used, this light weight elevator has proved very popular. Large loop handles speed up opening and closing, and a strong locking mechanism retains the latch pin of any size. The BJ Type LG Elevator fits the contour of external upset drill pipe having the standard 18-degree angle, and has a rated capacity of 20 tons.

BJ ELLIOTT ROPE GUARD

This efficient attachment separates the first and second wraps of the cat-line and prevents any tangling or fouling of the cat-line as it wraps around the cat-head. It not only eliminates the possibility of accidents and personal injuries, but assists in speeding up all cat-head operations. It can be used with any make or size of modern draw works; lists for $40.00; and quickly pays for itself in savings of time.

BJ EXTRA HEAVY ROTARY & CASING TONGS

Strong enough for making-up and breaking-out drill collars and reamer subs — fast enough for all casing work — here's that tong which has been adopted as "Standard" by modern oil men everywhere. Large loop handles provide safe, easy handling. Each size tong fits drill pipe and tool joint or casing and coupling, and two sharp dies insure a firm non-slip, non-crushing grip. Made to handle sizes from 2⅞" to 13⅜" A.P.I. *and available promptly through YOUR supply store.*

BJ ELLIOTT Wire Line CORE DRILL

It drills straight, full-gauge hole at a speed and at a cost which compares favorably with any other type of drilling bit. The highest quality, heavy drill collar stock is used for the outer barrel, and four different types of Bits are available. For soft formations, and formations of average hardness, 2-Way, 3-Way and 4-Way Bits (illustrations 1, 7 and 8), permit each operator to make his own selection based upon drilling experience in the formation being penetrated. For hard, rock formations, a Hard Formation Bit with Roller Cutters is furnished (illustration 10). The anti-friction type Roller Cutters are fully heat treated and the teeth of the cutters are heavily faced with Tungsten Carbide. Long-tooth cutters (11) are used for shales; short-tooth cutters (12) for hard sand and rock.

The BJ Elliott Drilling Assembly (6) is dropped down through the drilling string and comes to rest inside the Drill Collar on a shoulder in the Bit. When the pumps are started the Drilling Assembly is automatically latched and is rotated positively as the drilling string is rotated. When the zone to be cored has been reached and pump pressure is stopped, a strong coil spring retracts the Drilling Assembly from its engaged or latched position; and it is instantly free inside the Drill Collar. The instant release of the Latching Mechanism leaves no opportunity for mud or cuttings to settle and "freeze" the Drilling Assembly in position—a frequent experience with certain other makes of wire line coring equipment. The Overshot is then dropped on a wire line and the Drilling Assembly is quickly and easily removed from the hole.

CORES SUCCESSFULLY IN ANY FORMATION

The BJ Elliott Inner Barrel Assembly (2) is dropped down inside of the drilling string (its streamlined design assuring free, unobstructed travel) and comes to rest on a shoulder on the Bit. No locking or latching mechanism is needed to hold the Inner Barrel in position to take the core—pump pressure only is required—and this feature is of vital importance to you. With certain other types of wire line coring equipment (where an upward strain must be taken on the wire line overshot to release a locking mechanism) mud or cuttings often "freeze" the inner barrel in locked position while the overshot is being dropped, and the entire drilling string must be removed before coring can be continued.

An exclusive, patented Venturi Valve on top of the Inner Barrel causes a suction at the upper end of the Inner Barrel to bleed off mud and cuttings and assist the easy entry of cores from loose or unconsolidated formations. A Standard Spring Type Core Catcher (4) is used for ordinary formations and hard sand or rock; a Basket Type Core Catcher (5) for soft sands and loosely consolidated formations.

You should know just how the BJ Elliott Wire Line Core Drill will enable you to core continuously or drill and core as you desire, without removing the drilling string from the well. Please refer to Pages 532 to 541 of the 1940 Composite Catalog, or ask for your copy of the new BJ Catalog—gladly sent free to any oil man. RENTAL SERVICE exclusively through all branches of WILSON SUPPLY COMPANY.

July, 1939. No shows were reported in Wilcox formation. **Oil Outlets:** Tide Water Pipe Line Co., 8-in, Humble Pipe Line Co., 8-in, American Liberty Pipe Line Co., 8-in, Sun Pipe Line Co., 6-in, American Liberty Oil Co.'s 8-in line from East Texas ties into line at Conroe, then comes to Houston. **Range of Gravity:** 35-40. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Humble Oil & Refining Co., Tide Water Oil Co., Houston Oil Co., Republic Production Co., Strake Petroleum Corp., Brown & Wheeler, Inc., Sun Oil Co., The Texas Co., Alpha Petroleum Corp., Harrison & Abercrombie, Standard Oil Co. of Kansas. Above operators hold about 12,000 acres of productive or proven leases, and about 4700 acres additional are divided among numerous others. **Remarks:** Spaced 20 acres. Gas/oil ratio 2000/1.

DACUS*

6 mi nw Montgomery, centering around D. Roper, T. Shepherd, F. B. Wheeler and J. Beuhn Surveys. **Means of Discovery:** Surface geology, reflection seismograph, Texas Seaboard Oil Co., 1934. **Extent of Development:** Smith & Cooper's Post 1, Roper Survey, had slight oil show, 2640 ft, oil and gas shows in Cockfield around 3700 ft, but salt water at latter depth; top Cockfield 3415 ft; quit 4007 ft, June, 1934. E. M. Compton's Bennett 1, Wheeler Survey, salt water 3156-3260 ft, quit 3601 ft, April, 1935. Wm. Thompson et al's Scott 1 showed fresh water in Hockley-ensis and Cockfield sands, dry at 3674 ft, Feb., 1936. Scott 2, dry 3685 ft, May, 1936. Chapman & Smith's Delta Land 1 reported showing of oil 2250-70 ft, quit in Cockfield at 4003 ft, April, 1936. Same operator's No. 2 topped rock 5121 ft, twisted off dr pipe, abnd 5123 ft in Cockfield, May, 1936. H. W. Blumenthal's Delta Land 1, dry 4011 ft, June, 1936. J. Smith's Scott 1, dry at 3742 ft, March, 1939. **Rigs Running:** 2. **Principal Leaseholder:** Gulf Oil Corp.

DEERING*

5 mi nw Tamina, centering Henry Blood, D. Garrett, J. Hodge surveys. **Means of Discovery:** Surface geology. **Extent of Development:** Deering et al's Knight 1, D. F. Wilden Survey, quit at 4686 ft, 1931. Deering & Frazier's Rohlf 1, Henry Blood Survey, quit at 5650 ft, 1933. Showers & Moncrief's Chase Bank 1, D. Garrett Survey, quit at 5521 ft, 1933. Deering & Frazier's Hicks 1, T. Taylor Survey, salt water sand in Cockfield, 5579-92 ft, quit 5592 ft, 1934. Turnbull & Irwin's Carr 1, C. Allen Survey, salt water sand in Cockfield, 5593-5613 ft, dry 5953 ft, Sept., 1935. Jack Frazier's Maxey 1, J. Brown Survey, quit at 6009 ft in Cockfield, March, 1936. North of Frazier's well, T. J. Word's J. T. Bertrand 1, A. Hodge sur, quit at 5371 ft, May, 1937. Mills Bennett's Llewellyn & Foster 1, J. Hodge sur, dr water sand 8700-51 ft, dry at 8751 ft, Oct., 1938. Jack Frazier's Chase National Bank 1, D. Garrett sur, cored salt water sands 5397-5406 ft, dry at 8515 ft, Oct., 1938. **Principal Leaseholders:** Deering & Frazier, Stanolind Oil & Gas Co., United Gas Co., Empire Gas & Fuel Co., Sun Oil Co., Showers & Moncrief, Gulf Oil Corp., H. H. Weinert, Turnbull & Irwin, Shell Pet. Corp. **Remarks:** Also known as Tamina. South of this area at Huffsmith, Harris County, H. J. De Arman's Gieske 1, I. Bunker Survey, dry at 6120 ft, Dec., 1937. Same operator's McDonald 1, A. Lawson sur, Harris County, salt water sand 5818 ft, abnd 6115 ft, Feb., 1939. D. B. McDaniel's Baldwin 1, swabbed little oil 9300 ft, Aug., 1940.

EAST MONTGOMERY*

5 mi e Montgomery, John Cronkrite, Wm. C. Clark and J. J. Foster Surveys. **Means of Discovery:** Surface geology; core tests, seismograph, Rycade Oil Corp., 1931. **Extent of Development:** A. H. Parson et al's Drouth 1, nw Cronkrite Survey, show gas 3850 ft, dry 4125 ft, 1932; Drouth 2, se same survey, show gas 3950 ft, small show oil, 4225 ft, dry 4450 ft, April, 1933. T. J. Wood et al's Fultz 1, Wm. C. Clark sur, dry at 5034 ft, Dec., 1939. **Remarks:** See West Conroe.

FOSTORIA*

Northwest Fostoria, centering around HT&B Section 2. **Means of Discovery:** Sub-surface high reported. **Extent of Development:** Fostoria Lumber Co.'s Foster 1, dry 5580 ft, July, 1933.

GOODWIN*

1 mi e Goodwin. J. Foster Survey. **Means of Discovery:** Surface geology; reflection seismograph, 1932. **Extent of Development:** Continental Oil Co. and J. Fohs' Rock Creek Lbr. Co. 1, abnd salt water sand, Feb., 1933.

MAGNOLIA

Centering around the town of **Magnolia**. J. Dorsey and W. T. Dunlavy surveys; in Waller County, W. Hillhouse Survey. **Means of Discovery:** Reflection seismograph and torsion balance, Humble, 1936, 1938, core drilling, 1937. **Extent of Development:** Humble's South Texas Development 1, W. Hillhouse Survey, dry 6500 ft, Jan. 1, 1938 (core test). **Principal Leaseholder:** Humble Oil & Refining Co. **Remarks:** Humble was reported to have farmed out block in Hillhouse Survey to George Echols, Aug., 1940.

MONTGOMERY*

Centering around town of Montgomery, J. Corner and Z. Landrum Survey. **Means of Discovery:** Reflection seismograph, Amerada Petroleum Corp., Texas Seaboard Oil Co., Humble Oil & Refining Co.; torsion balance, Shell Petroleum Corp., The Texas Co. **Extent of Development:** C. G. Reynold's Stewart 1, dry 5500 ft, 1935; Sternberger et al's F. B. Swift 1, R. R. Rogers Survey (5 mi s), quit in Cockfield, 5025 ft, no important showings, 1933. About 3½ mi ne of Montgomery, H. E. William's Peel Estate 1, salt water sands 3724-50 ft, 3818-83 ft, abnd 3975 ft, in Cockfield, Oct., 1936. 1 mi s Montgomery, Z. Landrum sur, W. L. Todd's Martin 1, cored salt water sands in Cockfield at 3970-80 ft, dry at 4215 ft, Sept., 1938. Northwest of Montgomery, A. T. Grambaskies Guy 1, W. Landrum sur, dry at 4024 ft, Sept., 1939. **Principal Leaseholder:** Sun Oil Co. (4500 acres). **Remarks:** Sternberger's Swift 1 was drilled on evidence of a surface high.

NICHOLS SURVEY*

4 mi n and e Goodwin, centering around T. J. Nichols Survey. **Means of Discovery:** Surface geology, seismograph, 1932. **Extent of Development:** Core tests, Lowrie & Young; Pure Oil Co. McElroy Oil Corp.'s Damuth 1, Nichols Survey, dry at 5078 ft, 1932; McWhorter 1 quit at 5610 ft, 1933. 3 mi nw, in P. Hamblin Sur, McElroy's Grogan 1 quit in Cockfield, 5001 ft, 1934; 3 mi ne, in J. Sealey Sur, Mound Creek Oil Co.'s Sealey 1 quit in Cockfield salt water sand at 5009 ft, 1933. Over mi se McElroy tests, R. L. Sprinkle's E. A. Rohlfs 1, H. Prosens Sur, quit at 5105 ft before reaching Cockfield. B. E. Bolyard's Atkinson 1, Robin George Sur, had salt water 4980-95 ft in Cockfield, quit 5150 ft, 1935. **Remarks:** Also known as Kern.

PINEHURST*

4 mi s Magnolia, S. J. McFarland Sur. **Means of Discovery:** Surface evidence induced drilling. Geophysics did not indicate salt dome, but structure indicated to southeast nearby by torsion balance, 1931. **Extent of Development:** Several shallow tests. Humble Oil & Refining Co.'s W. A. Renn 1, McFarland Survey, abnd 5634 ft, 1931.

SPLENDORA‡

Near town of Splendora, embracing portions of Wm. Willis, Wm. Barker, J. Blackman, J. Cole, M. B. Lawrence and Walker County School Lands surveys. 7 mi e of Conroe field. **Means of Discovery:** Reflection seismograph, Tide Water Oil Co. and Darby Petroleum Corp., 1933. **Discovery Well:** Steen Drilling Co.'s Long Leaf Lumber Co. 1, Walker County School Land Sur, near center west line of Barker Sur, 6041 ft, plugged back and completed in Cockfield at 5816-24 ft, June, 1934. The well flowed 47 bbls 69-gr distillate 12 hours, large volume gas, with a ⅜-in casing and a ¼-in tubing choke, and tubing pressure 2100 lbs. **Structure:** Apparently a domal structure, similar in general to other structures along the Conroe trend. Drilling has been limited to only a few wells, and conclusive information is not available as to details of the structure. **Producing Formation:** Cockfield at 5816-24 ft. **Productive Area:** Only the discovery. **Extent of Development:** In 1932-1933 two wildcats were drilled within a few miles of the site of the Splendora discovery. 3 mi n Miller Production Co.'s Foster Lumber Co. 1, west end M. B. Lawrence Sur, quit at 5021 ft, late 1932. C. J. Daniel et al's Flowers (or Sailes) 1, Barker Sur, a mile east of discovery, quit at 2200 ft, April, 1933. Humble's Texas Long Leaf Lumber Co. 1, 1½ mi n of discovery, same sur, abnd 6238 ft, June, 1934. Humble's Anna M. Platte 1, Wm. Barker Sur, 3000 ft e of discovery, quit at 6085 ft after drill-stem test in Cockfield showed salt water, Aug., 1934. R. R. Frankle, Tr.'s Neff 1, dry 6037 ft, Jan., 1935. Paul Sanderson's Texas Long Leaf Lumber Co. 1, dry 6452 ft, Aug., 1935. Tide Water's Corbit 1, nw of Splendora, J. Blackman Sur, cored salt water sands in Cockfield at 6330-49 ft, abnd 6418 ft, June, 1936. Gates & Richard's Yarbrough 1, Wm. Barker Sur, dr salt water sands at 5918-23 ft, quit 6139 ft, Sept., 1936. G. E. Gates' Texas Long Leaf Lumber Co. 1, Walker County School Land Sur, topped Cockfield 5750 ft, cored salt water sands 5750-56 ft, abnd 6251 ft, June, 1937. **Deepest Hole:** Paul Sanderson's Texas Long Leaf Lumber Co. 1, Walker County School Land Sur, Block 6, abnd 6452 ft in Cockfield. **Estimated Ultimate Recovery:** 250,000 bbls. **Production Through 1940:** 1000 bbls. Field abnd. **Daily Production in July, 1940:** None. **Range of Gravity:** 69. **Rigs Running, January 1, 1940:** None. **Principal Leaseholders:** Tide Water, Darby Petroleum Corp., Humble, Standard Oil Co. of Kansas, Steen Drilling Co.

WEST CONROE‡

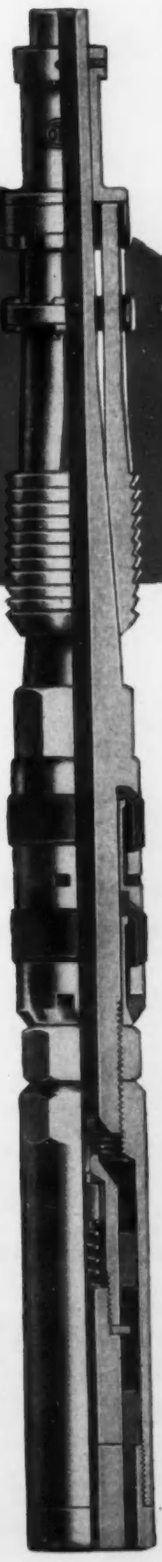
4 mi nw Conroe, centering W. S. Allen Sur. **Means of Discovery:** Subsurface geology, Housh & Thompson, 1938. **Discovery Well:** Housh & Thompson's Clary 1, top Cockfield 4506 ft, os 4736 ft, 3 ft thick, comp Nov., 1938, 44,000,000 ft gas, open flow, no oil. Came in making gas but drowned. **Remarks:** 200 acres are estimated potentially productive of gas, but the discovery, now shut in, is only producer. Mi w Housh and Thompson drld a 5025-ft Conroe sand test, getting the sand at 4686-94 ft, full of sw, abnd 5025 ft, 1939.

WILLIS*

7 mi nw Willis, centering around J. Lindley, G. W. Lewis, J. Stokley, Wm. Wier, T. Whitmore, U. S. Springer surveys. **Means of Discovery:** Torsion balance, Southern Crude Oil Purchasing Co., Stanolind Oil & Gas Co., 1929; Gulf Production Co., The Texas Co., 1933. Gholson et al's Parks 1 showed oil and gas and started an extensive drilling campaign. **Extent of Development:** Sayre Oil Co.'s Delta L&T Co. 1, J. H. Truitt Sur, gas odor 3512 ft, gas and salt water, 3624-28 ft, quit in Cockfield, 5015 ft, 1934. Gholson et al's Parker 1, J. Lindley Sur, top Cockfield at 3695 ft, oil sand 3707 ft, drill-stem test, 3711-65 ft showed oil and gas with closed-in pressure 360 lbs, later water showed up and casing pulled to repair leak, swabbing brought fluid up to 3000 ft but would not flow; shut in making estimated 15,000 ft gas, ¼-in choke, 3969 ft, Aug., 1935. T. T. Word's Delta L&T Co. 1, J. Hosletter Sur, salt water 3635-53 ft in Cockfield, quit 3668 ft in Cockfield, Aug., 1935. Mid-Tex Oil Co.'s Delta L&T Co. 1, R. T. Oliver Sur, abnd salt water 4026 ft in Saline Bayou, Sept., 1935. Donday Oil Co.'s Trice 1, T. Gude Sur, slight oil show 3698-62 ft, dry 4132 ft in Saline Bayou, Sept., 1935. Geo. E. Smith's Delta L&T Co. 1, McBride Sur, dry 4228 ft, Sept., 1935. Chas. Gholson's Johnson 1, 2½ mi nw of Willis, W. Wier Sur, gas odor 3938 ft, salt water sands 3985-92 ft, quit in Cockfield 3992 ft, March, 1936. Mid-Texas Oil Co.'s Security Trust 1, G. W. Lewis Sur, showed 240 lbs pressure on drill-stem test at 4252-4300 ft, good odor oil in Cockfield, drilled salt water sand 4312-20 ft, abnd 4547 ft, May, 1936. Blumenthal's Delta Land 1, J. Stokley Sur, dry in Cockfield, Aug., 1936, at 4078 ft. Cored several shows oil and salt water in Cockfield. W. O. Belniski's Wood 1, Wm. Wier Sur, showed gas and distillate 3707-17 ft, drill-stem test 3710-42 ft showed oily mud and 200 lbs pressure; cored 3742-57 ft, little free oil, June, 1936, the well flowed dry gas and wash water and later made small amount distillate, tubing pressure 880 lbs, casing

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

"a lion by the tail"



THEY NEED A SURE SAFEGUARD AGAINST DISASTER...

The measures needed for protecting coastal wells against hurricanes and other contingencies are fast assuming major importance in the industry. Many far-sighted companies within the last year have provided their wells with the **only sure** safeguard against disaster . . . the Otis Removable Tubing Safety Valve. Yet, this protection cannot be considered complete unless adjoining wells are rendered safe from running wild through the tubing due to failure or damage of surface controls.

When used with the new Otis Pressure Lock Casing Packer, the Otis Removable Tubing Safety Valve provides **complete** protection, so that regardless of what damage may be done to surface connections, the well is instantly, automatically and completely closed in. The simple Safety Valve with its housing is threaded to the lower end of a patented locking mandrel assembly which is identical with that used on the Otis Removable Bottom Hole Choke and Otis Removable Bottom Hole Regulator. With the Safety Valve installed, your well can flow up to a predetermined rate. Flow in excess of that rate, causing even a slight pressure drop through the annular space, automatically causes the Safety Valve to be lifted to its seat in the lower end of the locking mandrel, completely sealing the tubing.

Equalizing pressures across the Safety Valve causes the valve to drop to its open position, allowing flow to be resumed. The Otis Removable Tubing Safety Valve is run under pressure on a steel measuring line and locked at any desired depth in the tubing. It is readily pulled on a steel line without disturbing the tubing string.

OTIS PRESSURE CONTROL, Inc.

OTIS "Don't Kill Your Well" Call OTIS

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1120 lbs. Later started making salt water, was killed and pb to 3720 ft. Seven-inch csg was set at 3720 ft, washed well with oil and July, 1936, it made a little dead oil. Drilled to 4000 ft, pb 3739 ft, set screen and flowed salt water. Gas was used to drill another well. Red Bank Oil Co.'s Central Coal & Coke Co. 1, T. P. Whitmore Sur, dr salt water sands in Cockfield, abnd 4005 ft, Sept., 1936. W. W. Chapman's Foster 1, D. Pevehouse Sur, cored salt water sands and was abnd Feb., 1937, at 3678 ft. The Texas Co.'s Crawford 1 topped Cockfield 4255 ft, abnd 4620 ft, July, 1937. O. C. Garvey's Foster Estate 1, N. Martin Sur, salt water sands, 3883 ft, 6783 ft, 6839 ft, odor oil 7002 ft, abnd in Wilcox 7041 ft, May, 1939. Strum & Womack's Foster 2, A. Pevehouse Sur, slight show 6750 ft, 6800 ft, abnd at 7265 ft, Feb., 1940. Dick Schwab-Womack-Sturm's Foster Estate 1, De la Garza Sur, quit 8302 ft, no shows, May, 1940. **Remarks:** Most operators have dropped leases in this area.

NEWTON COUNTY

BLEAKWOOD*

3 mi nw Bleakwood, centering in Henry Cochran Sur. **Means of Discovery:** Trend play; surface geology, reflection seismograph, Tide Water Associated Oil Co. and Darby Petroleum Corp., 1934. **Extent of Development:** Tide Water and Darby's Southwestern Lumber Co. 1, salt water in Cockfield, dry 5858 ft. **Principal Leaseholder:** Republic Production Co.

BUNKER HILL*

East of Bunker Hill, on Newton-Jasper County line, centering H&TC Sections 22 and 28. **Means of Discovery:** Torsion balance, reflection seismograph, Humble Oil & Refining Co., 1933-34; geophysics, Republic Production Co. and Houston Oil Co. **Extent of Development:** Northeast of Bunker Hill, W. & M. Oil Co.'s Smith 1, TERR No. 2, salt water sands 7920-28 ft, 7974-79 ft, abnd 8005 ft, Dec., 1939. **Principal Leaseholders:** Republic Production Co. and Houston Oil Co. fee mineral leases.

CALL**

Centering around H&TC Section 42. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1933 and 1934; Republic Production Co. and Houston Oil Co., 1934, 1935 and 1936; latter also worked with torsion balance. **Discovery Well:** Houston Oil Co.'s Peavy-Moore 1, Sept. 22, 1937, 800 bbls daily, ⅛-in choke, little salt water, from perforations 6908-18 ft. Potential showed 126 bbls, 29-gr oil daily through 3/16-in choke. **Structure:** Anticline. **Approximate Elevation:** 80-150 ft. **Producing Formation:** Cockfield at 6908-18 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 100. **Daily Production, July 1, 1940:** None, field abnd. **Estimated Ultimate Recovery:** 15,376 bbls. **Production Through June, 1940:** 15,376 bbls. **Indicated Remaining Reserve:** Depleted. **Deepest Hole:** Houston Oil Co.'s Sabine Tram 2, tested 7105 ft, flowed 40-gr pipe line oil for 3 hours and salt water came in and was killed. Hole was drilled to 7380 ft, abnd, Dec., 1937. **Casing Programs:** Houston Oil Co., 16-in, 50 ft; 10¾-in, 1200 ft; 7-in, 6900 to 7100 ft. **Oil Outlet:** Trucks. **Gravity Oil:** 6908-18 ft, 29. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Houston Oil Co. and Republic Production Co. **Remarks:** Only the discovery well has produced oil out of over a half dozen tests drilled. In 1939, April, Sun Oil Co. drilled Peavy-Moore Lbr. Co., T&NO, Sec 3, 2 mi ne Call field, dst 7452-59 ft, rec sw, abnd 7459 ft.

DEWEYVILLE*

A. Jordan, W. Wilson and surveys to west, 2½ mi s Deweyville. **Means of Discovery:** Surface indications, core drilling. **Extent of Development:** Humble Oil & Refining Co. drilled series cores to about 1000 ft.

GIST*

F. Stover Survey No. 4, 2½ mi se Gist. **Means of Discovery:** Surface indications. **Extent of Development:** Sun Oil Co.'s Peavy-Moore 1, Stover Sur, abnd in hard sand, 7225 ft, 1932; no showings. **Principal Leaseholder:** Sun Oil Co.

NORTHEAST BUNKER HILL*

Northeast of Bunker Hill, centering H&TB Section 28. **Means of Discovery:** Reflection seismograph and torsion balance, Humble Oil & Refining Co., 1934 and 1935. **Extent of Development:** Undrilled. **Principal Leaseholder:** Humble. **Remarks:** Humble's leases run to 1941-1947; has taken additional acreage to east from Sabine Tram Co.

SABINE TRAM BLOCK "2"

Centering around Nancy Guthrie and I. Garner surveys. **Means of Discovery:** Torsion balance and reflection seismograph, Republic Production Co., 1936. **Extent of Development:** Republic Production Co.'s Sabine Tram Co. 1, I. Garner Sur, abnd 7032 ft, Sept., 1938. **Principal Leaseholders:** Houston Oil Co. and Republic Production Co. **Remarks:** See Call, which was block "1" and also see Sabine block "3" South Louisiana, Calcasieu Parish.

SOUTHEAST CALL*

Southeast of Call field and centering around D. Deark and E. Shoemaker Surveys. **Means of Discovery:** Reflection seismograph and torsion balance, Gulf Oil Corp., 1934 and 1935. **Extent of Development:** Undrilled. **Principal Leaseholder:** Gulf. **Remarks:** Leases extend in this area to Sabine River and across into Louisiana. Some of the leases expired in 1939. This block joins Humble Oil & Refining Co.'s Northeast Bunker Hill prospect on the north.

WEST DEWEYVILLE*

Between the Deweyville and Gist prospects, and west of the town of Deweyville, centering H&TB Sections 13, 14, 15, 16, 17, 18. **Means of Discovery:** Reflection seismograph and torsion balance, 1934 and 1935, by Humble Oil & Refining Co. **Extent of Development:** Undrilled. **Principal Leaseholder:** Humble.

ORANGE COUNTY

COW BAYOU*

Se Orange field, Wm. Dykes and M. Latham surveys. **Means of Discovery:** Reflection seismograph, Tide Water Associated Oil Co., 1936. **Extent of Development:** Tide Water's Brown 1, dry in Frio at 7706 ft, July, 1936; Brown B-1, Wm. Dykes Sur, salt water in Frio at 7801 ft, quit at 7867 ft, Sept., 1936. The Texas Co.'s Lutcher Moore 1, 3 mi s of Orange, dry at 8399 ft, June, 1938. **Principal Leaseholders:** Tide Water Associated, Pan American Prod. Co., Sun Oil Co., The Texas Co.

ECHO*

Orange, B. Johnson Sur. **Means of Discovery:** Seismograph, Sun Oil Co., 1938. **Extent of Development:** Sun's Lutcher Moore 1-A, flowed 8 bbls oil, 8 bbls water hourly through ⅛-in choke, perf 8995-9010 ft, with tbg pressure 1600 pounds, 6320 ft, abnd, March, 1939. **Principal Leaseholder:** Sun.

NORTH VIDOR*

9 mi ne Beaumont, E. Hurst No. 15, T&NO 34, R. Wier, E. Stover, J. W. Swisher surveys. **Means of Discovery:** Surface indications. **Extent of Development:** Houston Oil Co.'s Hurst 1, E. Hurst No. 15, abnd in shale, 6025 ft, 1932. E. L. Smith Oil Co.'s Miller-Vidor 1, J. W. Swisher sur, abnd 6225 ft, 1932. Hunter's Miller-Vidor 1 salt water 6017 ft, 6175-6285 ft, abnd 7011 ft, June, 1939.

ORANGE

6 mi w Orange. Wm. Dyson, S. M. Luce, B. Garner, J. Dyson surveys. **Means of Discovery:** Broken surface, gas escapes. **Discovery Well:** Rio Bravo Oil Co.'s Bland 1, 500 bbls, 3128 ft, Aug. 13, 1913. **Structure:** Dome. Top salt 7120 ft. **Producing Formations:** Largely lenticular sands; Pliocene, Miocene and Oligocene, 2500 to 5303 ft; gas and distillate sands at 5522 to 5629 ft. Oil sands 5810-15 ft, 5908-75 ft, 6005-20 ft, 6118-23 ft. **Approximate Elevation:** 10-30 ft. **Average Sand Thickness:** 30 ft. **Productive Acres:** 900; 850 developed. **Daily Production, July 1, 1940:** 2680 bbls from 72 wells. **Estimated Ultimate Recovery:** Shallow, 40,000,000 bbls; deep, 8,000,000 bbls. **Production Through 1940:** Shallow, 32,688,640 bbls; deep, 1,347,870 bbls. **Indicated Remaining Reserve:** 13,963,000 bbls. **Deepest Hole:** Gulf's Duhon 1, abnd 7604 ft, May, 1938. **Oil Outlet:** Humble Pipe Line Co., 8-in. Sun Pipe Line Co., 6-in. Gulf Pipe Line Co., 6-in. **Range of Gravity:** 20-42. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Gulf Oil Corp., Sun Oil Co., Brownie-Babette Oil Co., Rex Petroleum Co., Sinclair Prairie Oil Co., Humble Oil & Refining Co., Texhoma Oil Co., Orange Petroleum Co., Continental Oil Co., Rycade Oil Corp., J. R. Turnbull, General Oil Co., S. Ryan, Shell Oil Co., Red Bank Oil Co. and United Gas Co. **Heaving Shale:** Is found under Adams, Huggins, Cow Bayou, and Boyles tracts in Oligocene formation around 4675 ft, 5120 ft, and 5650 ft. **Remarks:** Tillery and Ryan revived dr on sw flank, Nov., 1937, when new Frio sand was logged 5928-46 ft. On n flank, Union Prod. Co.'s Lutcher Moore 1 logged first salt at 7120 ft and cored salt to 7315 ft. It was pb and comp April, 1938, at 5960 ft in new sand for north side of field.

PORT NECHES

2 mi n Port Neches. Mary E. Hall Nos. 1 and 2, and T. J. Notgrass, J. Beaumont, J. V. Polk surveys. **Means of Discovery:** Seismograph, The Texas Co., 1928. **Discovery Well:** The Texas Co.'s Kuhn 1, 1900 bbls 21.5-gr, 3160 ft, May 9, 1929. **Structure:** Dome, salt 7250 ft. **Producing Formations:** Pliocene-Miocene, 3150, 3750, 4150, 4400 and 4811 ft; Marginulina-Frio at 5871 to 5974 ft. **Approximate Elevation:** 10-30 ft. **Average Sand Thickness:** 40 ft. **Productive Acres:** 500; 300 developed. **Daily Production, July 1, 1940:** 958 bbls from 26 wells. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through June, 1940:** 5,400,091 bbls. **Indicated Remaining Reserve:** 4,599,909 bbls. **Deepest Hole:** Texas Co.'s Orange National 2, K. Beaumont sur, dry at 7667 ft in Vicksburg, July, 1934. **Oil Outlets:** Sun Pipe Line Co., 6-in; Humble Pipe Line Co., 8-in; Texas Pipe Line Co. **Range of Gravity:** 19-38. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholder:** The Texas Co. **Heaving Shale:** Is found under Kuhn tract around 7000 ft.

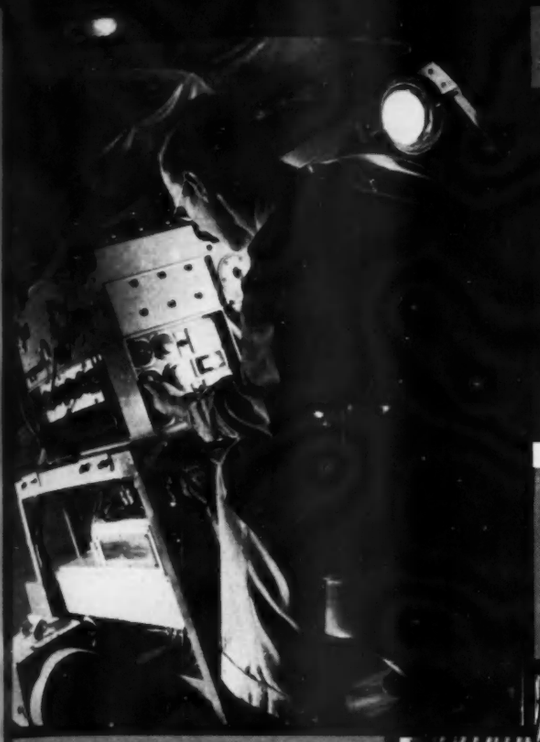
SOUTHWEST ORANGE*

J. Jett, A. Nelson surveys. **Means of Discovery:** Torsion balance, L. H. Williams, 1935; reflection seismograph, Felmont Oil Corp. **Extent of Development:** Dick Schwab's Rutan 1, gas show 5590-96 ft, salt water 7170-7205 ft, dry 7265 ft in Frio, 1935.

SPEAR*

Corner Hardin and Jefferson counties on Neches River; Spear Survey, Jefferson County, and Davis and Lout surveys, Orange County. **Means of Discovery:** Seismograph, Sun Oil Co., 1928. **Extent of Development:** None since seismograph; previously shallow tests mile north in Palmer and Lout surveys.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.



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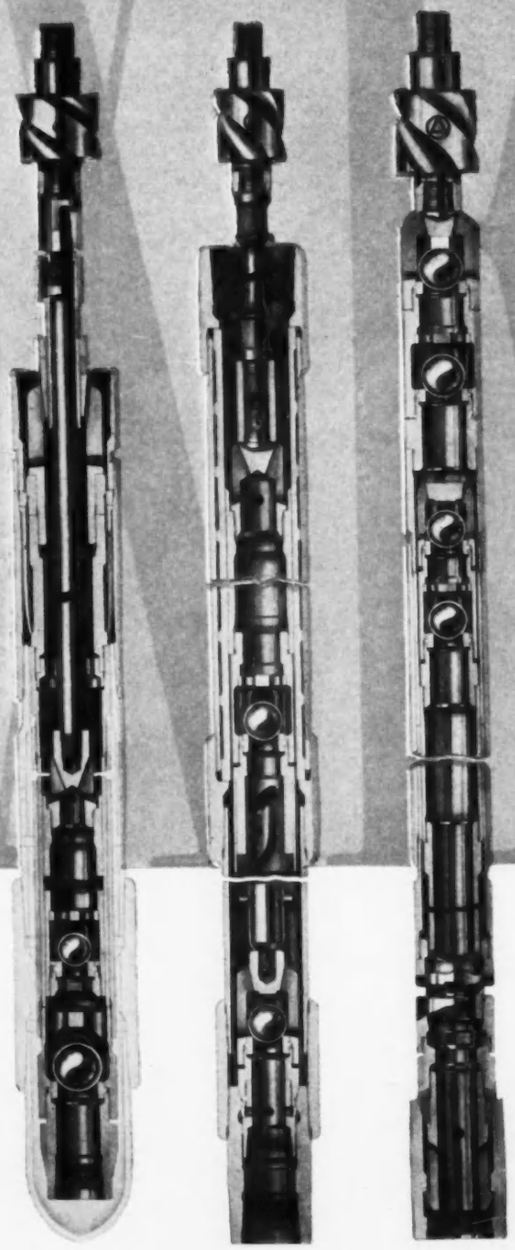

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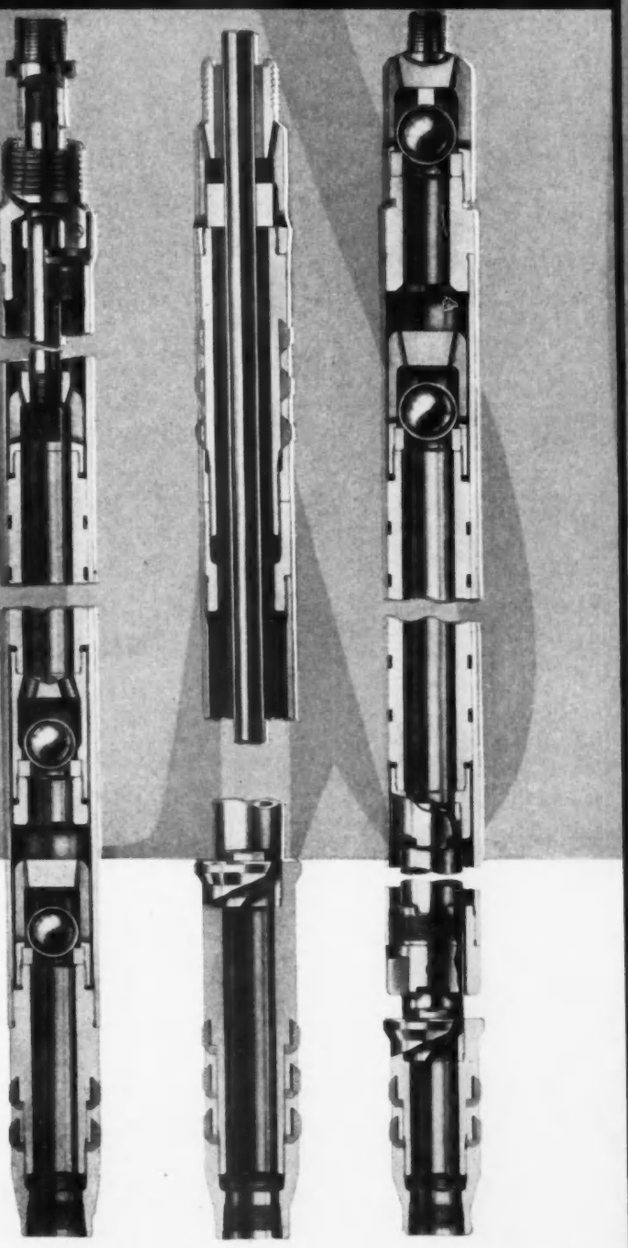

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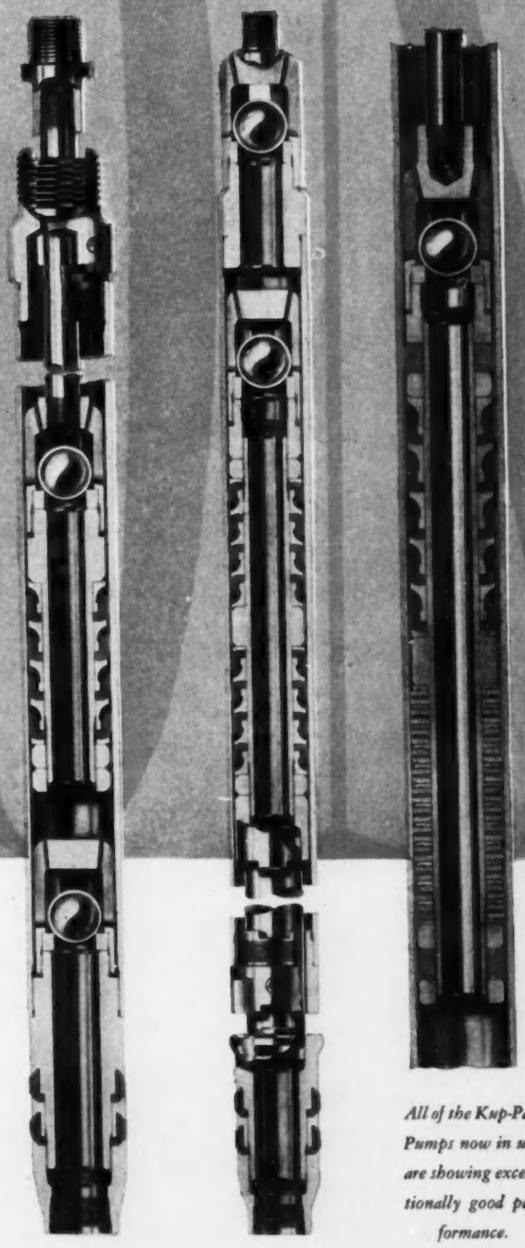

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DEEP WELL PLUNGER PUMPS AND SUCKER RODS

VIDOR*

2 mi n Vidor, 6 mi ne Beaumont, E. Lewis, J. Davenport, W. C. Sharp surveys. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1928, and reshot in 1932, after deep test. **Extent of Development:** Gulf's Miller-Vidor 1, Lewis survey, abnd 6500 ft, 1931; shallow tests previously, Hunter's Mille-Vidor Lbr. Co. 1, 7011 ft, abnd Frio. **Principal Leaseholders:** Gulf, Sun Oil Co., Stanolind Oil & Gas Co.

POLK COUNTY

ACE

8 mi se Livingston field, J. Menard, P. A. Sublett and G. S. Thomas surveys. **Means of Discovery:** Trend play; torsion balance indication of deep dome. **Discovery Well:** Dick Schwab's Kirby-West 2, G. S. Thomas Survey, 3,000,000 cu ft wet gas daily, with occasional sprays 42.5-gr oil, through ¼-in choke, from Cockfield at 4740-4856 ft, Dec. 26, 1933. Dick Schwab's Kirby 1-A, P. A. Sublett Survey, 215 bbls 40.4-gr oil in 18½ hours, May 31, 1936. **Type of Structure:** Possibly deep dome; no domal material encountered. **Producing Formations:** Cockfield, 4740-4856 ft. First oil production from Cockfield at 4805 to 4815 ft. Wilcox sands 7748-62 ft and 7810-20 ft. **Approximate Elevation:** 120-170 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** Shallow, 200; Wilcox, 200. **Daily Production, July 1, 1940:** Shallow, 28 bbls from 2 wells; Wilcox, 256 bbls from 4 wells. **Estimated Ultimate Recovery:** Shallow, 500,000 bbls; Wilcox, 1,000,000 bbls. **Production Through June, 1940:** Shallow, 217,355 bbls; Wilcox 134,861 bbls. **Indicated Remaining Reserve:** Shallow, 282,045 bbls; deep 865,139 bbls. **Deepest Hole:** Shell's Doucette 1, dr to 8553 ft, pb, comp in Wilcox at 7791 ft, April, 1939. **Oil Outlet:** Tank cars. **Range of Gravity:** 40-64; Wilcox sands 7762 ft, 34.2; 7870 ft, 36 deg. **Rigs Running, July 1, 1940:** Three. **Principal Leaseholders:** Alpha Petroleum Co., Shell Oil Co., Peyton Brothers. **Remarks:** Peyton Bros.' Kirby West 1-C discovered Wilcox production in Feb., 1939, at 7762 ft. Top Wilcox 7720 ft.

CORRIGAN*

W and sw Corrigan, Trinity County School Land, Houston County School Land and Saner-Ragley surveys. **Means of Discovery:** Pendulum, torsion balance, Gulf Oil Corp., 1933. **Extent of Development:** Gulf drilled 5 dry holes on fee in Polk and Trinity counties. **Principal Leaseholders:** Gulf, J. T. Lightfoot.

GOODRICH

Centering Goodrich, A. Viesca surveys. **Means of Discovery:** Seismograph, Jack Frazier, 1937. **Extent of Development:** Frazier's Bergman 1, Viesca Survey, abnd 4211 ft, 1938; Bergman 2, abnd 7576 ft, 1939. **Principal Leaseholders:** Jack Frazier, Sinclair Prairie Oil Co.

LIVINGSTON

9 mi se Livingston, in se part Augustine Viesca 7 leagues north of Jno. Swinney Survey. **Means of Discovery:** Surface and subsurface geology; also torsion balance indications of deep dome. **Discovery Well:** Dick Schwab's Carlton-Davis 1, 20 million ft gas, 4239-4311 ft, October 18, 1932, yielding some distillate. About 3 mi nw, in an isolated productive spot, first oil for the area was obtained from Sunshine Oil Co.'s Chase 2, which pumped 5 bbls 28-gr oil daily at 3290 ft, Feb. 13, 1930; deepened to 3382 ft and pumped 15 bbls daily, March 10, 1930. **Structure:** Dome of Raccoon Bend-Conroe type, but very small in area; no salt dome material reached. Faulted. **Producing Formations:** Main pay, Conroe sand at 4195 to 4360 ft. Sunshine well production from Jackson at 3285-3382 ft. **Approximate Elevation:** 190-245 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 1820. **Daily Production, July 1, 1940:** 1553 bbls from 85 wells. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through June, 1940:** 5,841,486 bbls. **Indicated Remaining Reserve:** 4,158,514 bbls. **Deepest Hole:** J. S. Abercrombie Co. and Harrison Oil Co.'s Carter 1, dry at 5596 ft, Feb., 1933, in Yegua. **Oil Outlet:** Shell Pipe Line Co., 6-in. **Range of Gravity:** 40. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Humble Oil & Refining Co., Gem Oil Co., Owenby Drilling Co., Sun Oil Co. **Remarks:** One well is dr to each 20 acres. Each well is allowed to produce 2000 cu ft of gas per barrel of oil.

NORTHWEST SEGNO*

Nw Segno, J. G. Loving and H. W. Augustine surveys. **Means of Discovery:** Geophysics, Humble Oil & Refining Co. **Extent of Development:** Mayo et al's Mayes 1, J. G. Loving Survey, dry 5101 ft, April, 1937. Humble's Carter 1, H. W. Augustine Survey, quit at 5012 ft, Aug., 1937. **Principal Leaseholder:** Humble.

ONALASKA*

Southeast of Onalaska, J. Johnson and E. Clark surveys. **Means of Discovery:** Subsurface and geophysics. **Extent of Development:** G. E. Gate's Jackson 1, dry, 5557 ft, May, 1937.

SEGNO

Se Segno, I&GN 13, 15, P. Garcia, A. Morales, M. Victor surveys. **Means of Discovery:** Refraction seismograph and torsion balance, Gulf Oil Corp., Humble Oil & Refining Co., 1933, Kirby Petroleum Co. **Discovery Well:** J. K. Dorrance's Wing 1, 5194 ft. Dec. 24, 1936, 25 bbls 38-gr oil per hour through ¼-in choke. **Structure:** Anticline. **Approximate Elevation:** 145 to 165 ft. **Producing Formations:** Upper Cockfield at 5150 to 5195 ft and Conroe at 5243 to 5277 ft; 5340 to 5342 ft; Saline Bayou 6261-64 ft; Wilcox 8000-18 ft, 8163-68 ft. **Average Sand Thickness:** 12 ft. **Productive Acres:** Shallow, 500, 450 developed; Wilcox, 2200, 650 developed. **Daily Production, July 1, 1940:** Shallow, 1135 bbls from 37 wells; Wilcox, 2624 bbls from 58 wells. **Estimated Ultimate Recovery:** Shallow, 5,000,000 bbls; Wilcox, 25,000,000 bbls. **Production Through June, 1940:** Shallow, 1,852,836 bbls; Wilcox, 984,541 bbls. **Indicated Remaining Reserve:** 27,160,000 bbls. **Deepest Hole:** Gulf's Regan 2, I&GN 15, dr to 9154 ft, comp in new sand 8163-68 ft, April, 1938; top Wilcox 8100 ft. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Gravity Oil:** 36-44. **Rigs Running, July 1, 1940:** 3. **Principal Leaseholders:** J. K. Dorrance, Humble, Gulf. **Remarks:** Spaced 10 acres; gas/oil ratio 2000/1. Second field in Gulf Coast to produce from Wilcox.

SAN JACINTO COUNTY

COLD SPRING-EVERGREEN*

6 mi sw Cold Spring, George Taylor, Wm. Busby, J. Rankin surveys. **Means of Discovery:** Surface geology, Stanolind Oil & Gas Co., 1937; geophysics, Shell Oil Co., 1933; gravimeter, Gulf Oil Corp.; reflection seismograph, Standard Oil Co. of Texas, 1938; Shell, Atlatl Royalty Co., Harrison & Abercrombie, 1939. **Extent of Development:** Piedmont Oil Co.'s Foster 1, Taylor Sur, abnd 4475 ft, Turnbull & Irwin's West 1, abnd Cockfield 4280 ft, Phillips Petroleum Co.'s Foster 1, Taylor Sur, abnd 4500 ft, 1934, Ralph Stern's Love 1, 2 mi nw Cold Springs, D. McGee Sur, abnd 5670 ft, 1936. Gholson & Decker's Randolph 1, Flores Sur, abnd 4175 ft, 1937. Shell's Coline 1, abnd 10,001 ft, May, 1940. **Principal Leaseholders:** Shell, Humble, Magnolia, Sun, Gulf, Texas, Pan-American, Amerada.

NORTH CLEVELAND*

6 mi n Cleveland, I. Lowry, Wm. Dobie surveys. **Means of Discovery:** Surface geology, geophysics. **Extent of Development:** Turnbull & Irwin's Foster 1, Dobie Sur, quit in Cockfield, 4936 ft, June, 1934, Weaver et al's Delta 1, J. W. Richardson Sur, quit at 5380 ft, April, 1933. Seven Wells Corp.'s Foster 1, H. Alsbury Sur, quit in salt water, 5041 ft, 1932. **Remarks:** See Keno-Excelsior.

SECURITY*

4 mi n Security in San Jacinto and Montgomery counties, G. Harris Survey. **Means of Discovery:** Sub-surface geology, Shell Oil Co., geophysics, 1933. **Extent of Development:** Turnbull & Irwin's Aylor 1, E. Votaw Sur, quit in salt water, 5230 ft, 1933. Fitzgerald 1, G. H. Harris Sur, quit in Cockfield, 4852 ft, 1934. J. M. Weaver et al's Delta 1, J. G. Ferguson Sur, abnd 5752 ft, 1934. Turnbull & Irwin's Love 1, Washington County No. 4, quit in Cockfield, 4720 ft, 1933.

SHEPERD*

4 mi e Sheperd, including L. D. Martinez No.'s 3, 4, and 10, Lanier, Henry, Wm. Hayes, F. Hardin, C. Smith surveys. **Means of Discovery:** Geophysics, Shell Oil Co., 1933. Torsion balance, Atlantic Prod. Co., gravimeter, Gulf Oil Corp., 1938; Shell, 1934. Reflection seismograph, Shell, Amerada, Atlatl Royalty Co., 1939. **Extent of Development:** Turnbull & Irwin's Peoples Bank 1, abnd 4650 ft, 1934. Moore 1, sw 4850-67 ft, dry 4873 ft. H. C. Cockburn's Lockin 1, Hayes Sur, abnd Cockfield 5319 ft, 1935. Dickinson-Falvey-Shell 1, Smith Sur, abnd 5005 ft, 1936. K. Moore 1, abnd 5053 ft, 1936. Frazier and Sinclair's Smith 1, Martinez No. 10, abnd Wilcox 7512 ft. Harrison & Abercrombie's Lockin 1, Hayes Sur, sw in Wilcox 8405 ft, abnd 8598 ft, Feb., 1940; Dixon 1, Cole Sur, abnd 8870 ft, June, 1940. Late in July, 1940, Harrison & Abercrombie staked Sun 1, Hayes Sur, e of Lockin 1, projected to 9000 ft. **Principal Leaseholders:** Jack Frazier, Harrison Oil Co., Texas Co., Sun, Stanolind, Shell, Arkansas Fuel Oil Co., Atlatl Royalty Co.

STALEY*

6 mi ne Oakhurst, L. Enriques Sur. **Means of Discovery:** Core drilling by Jno. Mayo et al, 1937. **Extent of Development:** J. Mayo et al's Gibbs 1, blew out 1350 ft, abnd 1848 ft, 1937. J. W. Oliphant et al's Gibbs 1, McKnight Sur, abnd 6004 ft, 1938.

TYLER COUNTY

COLMESNEIL*

3 mi n Colmesneil, S. L. Ghohm Sur. **Means of Discovery:** Surface geology, Pure Oil Co., 1933. **Extent of Development:** Boone Bros.' Crews 1, show oil 1961-65 ft, sw 2231-34 ft, abnd 3026 ft, 1934. J. Z. Werby's Hayes 1, Boyatt Sur, abnd 4530 ft, Dec., 1939. **Principal Leaseholders:** Louis Franklin, Boone Bros., Pure, Stanolind Oil & Gas Co. **Remarks:** Sept. 10, 1940, Franklin and Tidemann were drilling Thomas & Schliecher 1, 4800-ft test, Parker lge, 5½ mi nw Colmesneil.

JOE'S LAKE (Spurger Wilcox)

Se Spurger gas field, N. Hurd Sur. **Means of Discovery:** Reflection seismograph and torsion balance, Republic Production Co. and Houston Oil Co. **Discovery Well:** Republic and Houston's Hurd 2, May 2, 1937, 300 bbls daily, 43-gr oil, ¼-in choke at 7641 ft. **Type Structure:** Dome. **Approximate Elevation:** 50-70 ft. **Producing Formation:** Wilcox 7600-7690 ft; 7665-7736 ft. **Productive Acres:** 2800; 850 developed. **Daily Production, July 1, 1940:** 1415 bbls from 32 wells. **Estimated Ultimate Recovery:** 30,000,000 bbls. **Production Through June, 1940:** 1,067,141 bbls. **Indicated Remaining Reserve:** 28,932,859 bbls. **Deepest Hole:**

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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Republic's Hurd dr to 9014 ft, pb and comp 7709 ft, Aug., 1939. **Oil Outlet:** American Pet. Co., 6-in. **Gravity Oil:** 40-47. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Republic and Houston.

NORTHEAST WOODVILLE*

9 mi ne Woodville, A. Barclay Sur. **Means of Discovery:** Reflection seismograph and gravimeter, 1936-37. **Extent of Development:** Undrilled. **Principal Leaseholder:** Gulf Oil Corp.

SPURGER

Nw of Joe's Lake (Spurger Wilcox) field. **Means of Discovery:** Reflection seismograph and torsion balance, Republic Production Co. and Houston Oil Co. **Discovery Well:** This was formerly a gas area. Republic Production Co.'s Sterne 1, April 4, 1940, 400 bbls 38-gr oil daily, ¼-in choke, from 4685-4704 ft, tubing pressure 875 pounds. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Daily Production July 1, 1940:** 83 bbls from 1 well. **Cumulative Production at July 1, 1940:** 10,589 bbls. **Estimated Reserve:** 1,989,411 bbls. **Oil Outlet:** American Pet. Co., 6-in. **Principal Leaseholders:** Houston, Republic.

WARREN*

S Hillister BBB&C 8, and 11. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1933. **Extent of Development:** Navarro Oil Co.'s Rice 1, abnd 5188 ft, in Yegua, 1938. **Principal Leaseholders:** Humble, Navarro, Sun Oil Co., The Texas Co.

WOODVILLE*

S Woodville, J. Wheat Sur. **Means of Discovery:** Surface geology, torsion balance, Jaybee Oil Co., 1934. **Extent of Development:** Jaybee's Young 1, J. Wheat Sur, abnd 4048 ft, 1934. **Principal Leaseholders:** Jaybee, Woodley Petroleum Co., Gulf Oil Corp.

WALKER COUNTY

DUMAREASE*

Midway between Huntsville and s county line, including McDonald, Cox, Jordan, Talbot, Mercer, Lamb and Robinson surveys, centering latter three. **Means of Discovery:** Core drilling, reflection seismograph, Shell Oil Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Fred Dumarease, 37,000 acres; Shell Oil Co., 3000 acres taken from Dumarease, who was reported to be leasing entire block for Shell; Sinclair Prairie Oil Co., Tide Water Associated Oil Co.

LOVELADY*

5 mi sw Lovelady, 2 mi south e Kittrell field, Houston County, centering Mary Millsaps Sur. **Means of Discovery:** Surface geology. **Extent of Development:** E. J. Deu Pree's Texas Long Leaf Lumber Co. 1, Millsaps Sur, dry 3398 ft, shows rptd 2900 ft and 3100 ft, April, 1940. Deu Pree's Texas Long Leaf Lumber Co. 1-A, 250 ft n No. 1, drld to 3138 ft, July, 1940, set csg 3000 ft to test 110-ft section sand at 2790-2900 ft in Carrizo or Sabinetown indicated by electric log, swabbed sw show oil perforations 2916-26 ft, squeezed, reperforated, swabbed sw, show oil. Cores 2790-2835 ft showed oil and gas. Demand for close-in royalty brisk as many thought this well would provide county's first commercial production. Test reportedly headed gas and oil while running casing. **Principal Leaseholder:** E. J. Deu Pree, 1800 acres.

NEW WAVERLY*

Southeast town of New Waverly, centering J. Crouch Sur. **Means of Discovery:** Surface geology, Geo. W. Strake, 1934. **Extent of Development:** Strake's Thompson 1, Crouch sur, Gulf Oil Corp. contributing $4000, Hock 2903, Cock 3715, dry at 4200 ft, no shows, 1934. Neuva Petrolia Co.'s Tonty 1, J. C. Harrison Sur, Abs 263, Vick 2263 ft, Hock, 2714 ft, Oper 3508 ft, Cock, 3517 ft, dry 3820 ft, no shows. Hindman et al drilled Delta Ld. & Lbr. Co. 1, 3½ mi w New Waverly, show oil 1200 ft, td in 1930. **Principal Leaseholder:** Geo. W. Strake.

SANDEL*

14 mi w Huntsville, centering James Ford, Abs 21 Sur. **Means of Discovery:** Shows in shallow random wells. **Extent of Development:** Texas State Oil Co.'s Fails 1, gas sds 1600, 1800 ft, abnd 3200 ft, 1930. Seaport Oil Co's Ross 1, 9 mi w Huntsville, Wm. Hodge Sur, show oil 2994 ft, sw sd 3583-91 ft, Hock 1470 ft, Diboll 2049 ft, Cock 2449 ft, show oil 4280 ft, abnd 5012 ft, 1935. Roswell Oil Co.'s Osborne 1, sw Huntsville, Bath Community, J. Jordan Sur, Abs 58, junked 267 ft, 1937. A. U. Morrison's Nolte 1, 10 mi w Huntsville, Wm. Hodge Sur, dry 3025 ft, 1936. C. W. Markel et al's Hall 1, S. Montgomery Sur, 12 mi w Huntsville, dry 2100 ft, 1936. Same operators' Hall 1, Guerran Sur, 15 mi w Huntsville, dry 2000 ft, 1937. G. C. Dixon's Morgan 1, James Ford Sur, dry in Cockfield. **Principal Leaseholder:** T. C. Nowlin, 10,000 acres, 9000 acres of which block were assigned Seaport Oil Co. to drill Ross 1, also supported by Magnolia Petroleum Company, which took 530 acres in 1934.

TRINITY*

West of Trinity, 5 to 8 mi s by w Kittrell fld, centering Jose Ortega Sur, Abs 35. **Means of Discovery:** Geophysical and surface work, Shell Oil Co., prior to 1933. **Extent of Development:** The Texas Co.'s Thompson Lumber Co. 1, w end Ortega Sur, Diboll 460 ft, Cock 1612 ft, dst 2696 ft recovered fresh water and mud, as did dist 3060-75 ft, abnd 3304 ft in Wilcox, 1934. Boone Brothers et al's Thompson Lumber Co. 1, Ortega Sur, dry at 3006 ft, no shows, 1936. Hart Oil Co.'s Thompson 1, Ortega sur, 2000 ft sw Boone Bros. well, show oil and gas 1828-32 ft, abnd 2615 ft, 1933. **Principal Leaseholder:** The Texas Co.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

WALLER COUNTY

HEMPSTEAD*

Centering town of Hempstead, including J. Mouser, C. M. Donohue and S. Hardin surveys. **Means of Discovery:** Surface indications, reflection seismograph, Shell Oil Co., 1933. **Extent of Development:** H. E. Williams' Giddings 1, J. Mouser Sur, sw sd 3977-91 ft, abnd 4408 ft, 1937. Sumas Production Co.'s Menke 1, Donohue Sur, sw sd in Cockfield, abnd 5095 ft, 1937. Red Bank Oil Co.'s Chapman 1, S. Hardin Sur, abnd 4808 ft, 1937. In S. Hardin Sur, 5½ mi ne Hempstead, N. Blumenthal's Kelly 1, Cat 1326 ft, Vick 3070 ft, Hock 3632 ft, Diboll 4185 ft, abnd 4758 ft, 1937. **Principal Leaseholders:** Stanolind Oil & Gas Co., Atlatl Royalty Co. and Arkansas Fuel Co. purchased acreage 1939.

KATY‡

5 mi w of Katy, centering M. Bennett, T. S. Reese Sec. 110; H&TC Secs. 80, 99, 109, 123, surveys. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., Humble Oil & Refining Co., 1934. Several other companies worked this area with geophysical instruments. **Discovery Well:** Stanolind's Thorp 1, 2,000,000 ft gas daily on various chokes with 50 to 75 bbls of 58-gr distillate, Feb. 15, 1935. Drilled to 7663 ft, Crockett, pb to 7466 ft. **Structure:** Gas cap type anticline. Thought to be as large a structure as Conroe. Possibilities of oil around the flanks. **Producing Formations:** Discovery encountered showings in Cockfield and Upper Saline Bayou sands. Below top of Cockfield, Thorp 1 encountered over 102 ft gas sand. First showing was at base of Caddell and continued through Cockfield to top of Upper Saline Bayou. Second well had broken formations showing gas from 7253 to 7500 ft. **Approximate Elevation:** 160-180 ft. **Average Sand Thickness:** Several hundred ft of broken formation showing distillate. **Productive Acres:** 200 acres (depleted oil area); gas area, 10,000 acres. **Daily Production, July 1, 1940:** Gas. **Estimated Ultimate Recovery:** 83,376 bbls. **Production Through June, 1940:** 83,376 bbls. **Indicated Remaining Reserve:** 900 billion feet gas. **Deepest Hole:** Stanolind et al's Freeman 1, top Wilcox 10,025 ft, dr broken shows of gas to 10,635 ft, dr to 11,066 ft, pb 7385 ft, Sept., 1938. **Oil Outlet:** Wells shut in. **Gravity Oil:** 58. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Discovery well was drilled on a unitized block. Humble Oil & Refining Co., Stanolind, Sinclair Prairie Oil Co., Amerada Petroleum Corp. and Tide Water-Darby Petroleum Co. **Remarks:** First well on Conroe trend to drill 1489 ft in Cockfield formation without encountering salt water. Discovery is deepest well along trend to show gas. Opened new producing zone for trend. Amerada-Stanolind's Mary Manor 1, 7½ mi n discovery is on same structure and is classed by many as discovery well for field. Well made 15,000,000 ft gas on drill-stem test but showed salt water.

MANOR*

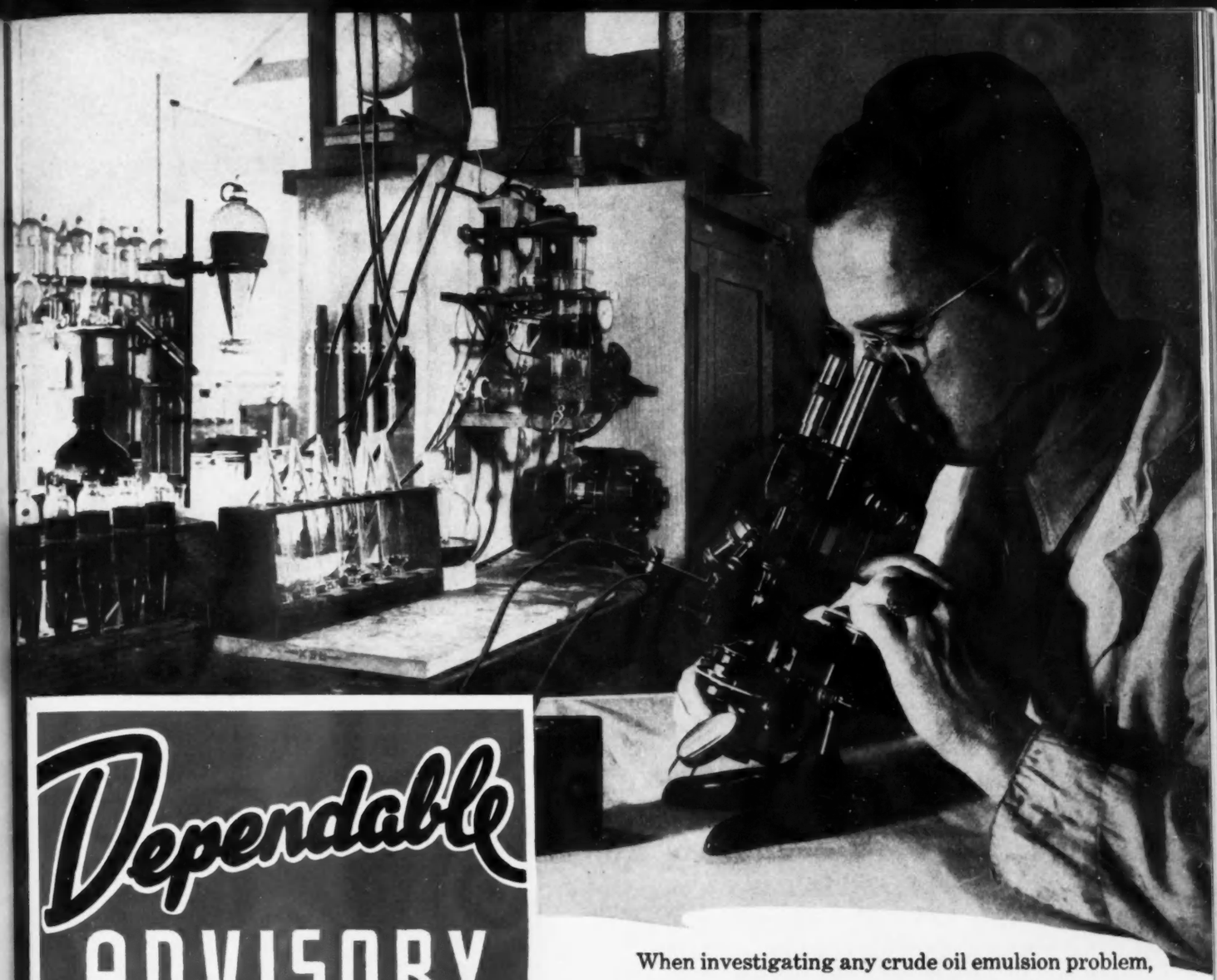
8 mi ne Pattison, centering H&TC RR, No. 93 Survey. **Means of Discovery:** Surface geology, Stanolind Oil & Gas Co., Amerada Petroleum Corp., prior to 1934. **Extent of Development.** Stanolind and Amerada's Manor 1, H&TC RR Survey No. 93, Cat 2110 ft, Frio 2822 ft, Warr 4610 ft, Cock 6338 ft, Oper 6318 ft, Camer 6320 ft, abnd 6713 ft after dst 6596-6610 ft recovered 200 ft cut oil, 400 ft sw and gas, in 10 min, 1934. **Principal Leaseholder:** In 1939, Ohio Oil Co. took Manor 640-acre tract.

NORTH PATTISON*

Six mi n Pattison, including Perry and H&TC RR Surveys Nos. 39, 53, 54 and 56. **Means of Discovery:** Seismograph. **Extent of Development:** Providence Oil Co.'s Muske 1, Perry Sur, Hock 5139 ft, Cock 6126 ft, abnd 6618 ft in sw sd, ran elec log showing all Cockfield and Yegua sands carried sw. **Principal Leaseholder:** Tide Water Associated Oil Co., who in 1939 took 2240 acres on east side of prospect.

SAN FELIPE (Brookshire)

John McFarland Survey. **Means of Discovery:** Seismograph reflection, Gulf Production Co., 1927. **Discovery Well:** Seaport Oil Co.'s Vaughn 1, Sept. 7, 1934, pumped 4 to 5 bbls per hour, 2966 ft. It was drilled 10 ft deeper, 2976 ft, flowed 22.2-gr oil through the drill stem Oct. 9, 1934, at the rate of 8 bbls per hour, 50 percent oil, 50 percent fresh water. **Structure:** Salt dome. One well topped cap rock at 3218 ft, and a s flank test hit salt at 4755 ft. **Producing Formations:** Producing from the Frio formation of the Oligocene in sandy shale, 385 ft, below the top of the Frio formation and 228 ft above cap rock. Sands 2966-2976 ft. **Productive Acres:** 50. **Daily Production, July 1, 1940:** 4 bbls from 1 well. **Estimated Ultimate Recovery:** 100,000 bbls. **Production Through June, 1940:** 21,382 bbls. **Indicated Remaining Reserve:** 78,618 bbls. **Deepest Hole:** Empire Gas & Fuel Co.'s Kunze 1, w flank, dry at 7200 ft, 1931. **Oil Outlet:** Tank cars. **Range of Gravity:** 23. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Humble Oil & Refining Co., Seaport Oil Co., The Texas Co., Gulf Production Co., Empire Gas & Fuel Co. **Remarks:** Regarded as one of the largest salt domes on the Texas Gulf Coast. Few wells have drilled deep enough for geological determinations. Sometimes referred to as Brookshire. C. M. Frost has been taking all available leases in Wm. Cooper Survey for several years, assigning 900 acres to H. R. Cullen, who, with Frost and Humble Oil & Refining Company, was said at Sept. 10, 1940, to be planning test on Rehmann tract.



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SPRING CREEK*

Centering L. Pearsal Survey. **Means of Discovery:** Geophysics, David B. McDaniel. **Extent of Development:** McDaniel's two tests; Leverkuhn 1, Pearsal Survey, junked at 6622 ft, drill pipe in hole, 1938; Demkins 1, Pearsal Survey, abnd 6500 ft, 1938. First test reported oil show 5900 ft. **Principal Leaseholder:** D. B. McDaniel, 4500 acres.

WALLER*

9 mi e Waller, including J. H. Stephens, BBB&C, Section 97, Pevehouse, J. Cooper, D. O'Boyle, G. Clay, Stewart, and L. Jones surveys. **Means of Discovery:** Surface indications, torsion balance, seismograph reflections, Shell Petroleum Corp., 1935. **Extent of Development:** Humble Oil & Refining Co.'s Taub 1, BBB&C, Sec. 97, abnd 1025 ft, 1930. Diadem Oil Co.'s Urban 1, sw sd 4762-84 ft, Hock 3832 ft, Mass Pratti 3780 ft, Cock 4645 ft, Diboll 4511 ft, abnd 4905 ft, 1935. J. Brian Eby's Rice 1, Stephens Survey, sw sds 4629-44 ft, Cook Mountain 5982 ft, Cock 4569 ft, abnd 7813 ft, 1937. **Principal Leaseholder:** Shell Oil Co.

WASHINGTON COUNTY

BRENHAM

S. M. Williams and J. Hodges surveys, 8 mi sw Brenham. **Means of Discovery:** Surface elevation, gas seeps. **Discovery Well:** Brenham Oil Co.'s Schurenberg 2, Oct. 8, 1915, 25 bbls, 1450 ft. (First shallow oil production: Lamarque Oil Co.'s Hess 1, 30 bbls, 270 ft, Jan. 9, 1925.) **Structure:** Dome, cap rock 800 ft, salt 1150 ft. **Producing Formations:** Miocene 190 to 482 ft; and at 1500 ft. **Approximate Elevation:** 400-420 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 50. **Daily Production, July 1, 1940:** 13 bbls from 34 wells. **Estimated Ultimate Recovery:** 500,000 bbls. **Production Through June, 1940:** 368,000 bbls. **Indicated Remaining Reserve:** 128,201 bbls. **Deepest Hole:** Standard of Kansas' Kamas 1, dry 5039 ft, tested fresh water. **Oil Outlet:** Trucks. **Range of Gravity:** 14-19. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Conklin et al, Virginia Oil Co., C. H. Lane, Coulson. **Remarks:** Located farther inland than regular salt domes. Sulphur rights were leased to Freeport Sulphur Co. who did geophysical work, as did Continental Oil Co., but failed to find commercial sulphur. In May, 1940, Standard Oil Co. of Kansas drilled Kamas 1, projected 6000-ft test on the flank of the dome, abnd 5039 ft, reporting no salt.

CLAY CREEK

12 mi n Brenham, N. Clay and J. F. Perry surveys. **Means of Discovery:** Surface geology, Sun Oil Co., 1926, and core tests. **Discovery Well:** Sun's Grote 1, 125 bbls 25-gr, 1154 ft, Oct, 10, 1928. **Structure:** Dome, cap rock 1800 ft, salt 3160 ft. **Producing Formations:** Miocene, Cockfield, Mount Selman and Wilcox sands at 1124 to 1500 ft. **Approximate Elevation:** 275-295 ft. **Average Sand Thickness:** 120 ft. **Productive Acres:** 325. **Daily Production, July 1, 1940:** 368 bbls from 48 wells. **Estimated Ultimate Recovery:** 6,000,000 bbls. **Production Through June, 1940:** 4,380,300 bbls. **Indicated Remaining Reserve:** 1,619,400 bbls. **Deepest Hole:** Sun's Lauter 1, se flank test, dr 8306 ft in salt, top 8240 ft, pb and made a series of tests and was abnd April, 1937. **Oil Outlet:** Sun Pipe Line Co. to loading rack. **Range of Gravity:** 22-27. **Rigs Running, July 1, 1940:** None. **Principal Leaseholder:** Sun. **Remarks:** Sometimes called Gay Hill. First Wilcox production on Gulf Coast. Sept. 10, 1940, O. S. Knisely's Calhoun 1, 4 mi nw field had show oil and gas in Yegua 1385 ft.

WHARTON COUNTY

BLUE BASIN†

1½ mi se of Pierce, J. Hyland Survey. **Means of Discovery:** Torsion balance, reflection seismograph, Pure Oil Co. and The Texas Co., 1932. **Discovery Well:** Texas Co.'s Kluck 1, April 4, 1937, 500,000 cu ft gas after perforating 4642 to 4657 ft. **Type Structure:** Dome. **Producing Formations:** Miocene at 4642-4657 ft. **Average Sand Thickness:** 20 ft (gas sand). **Productive Acres:** Only the discovery well. **Daily Production, July 1, 1940:** None. **Estimated Ultimate Recovery:** Gas. **Production Through June, 1940:** Gas. **Indicated Remaining Reserve:** Gas. **Deepest Hole:** Pure Oil Co.'s Page 1, dr to 9200 ft in heaving shale, set 6⅝-in. 8500 ft, tested up the hole, finally abnd 7850 ft, June, 1936. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Pure Oil Co., The Texas Co. **Heaving Shale:** Is found under the Paige, Borden, Duffy and Schult tracts in Vicksburg. Top of heave usually around 8092 ft. Over 1108 ft penetrated.

BOLING

2 mi e Boling, S. F. Austin 3-1/6 Lg., D. W. Anthony, Simon Miller and Jas. Scott surveys. **Means of Discovery:** Gas, sulphur water. **Discovery Well:** The Texas Co.'s Taylor 3, Dec. 14, 1925, 10,000 bbls, 3338 ft. **Structure:** Dome, cap rock 425 ft, salt 975 ft. **Producing Formations:** Cap rock at 377 to 500 ft; Oligocene at 2500 to 4089 ft, Frio at 4281 ft, and 4800-4859 ft, 5600-15 ft. Also sulphur from cap. **Approximate Elevation:** 70-85 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 250; 250 developed. **Daily Production, July 1, 1940:** 1208 bbls from 78 wells. **Estimated Ultimate Recovery:** 11,000,000 bbls. **Production Through June, 1940:** 6,960,717 bbls. **Indicated Remaining Reserve:** 4,039,283 bbls. **Deepest Hole:** Mackhank Oil Co.'s Farmer 11-C, salt water sands 5183-5214 ft, abnd 6281 ft, March, 1939. **Oil Outlets:** Sinclair Pipe Line Co., 8-in; Humble Pipe Line Co., 8-in. **Range of Gravity:** 19-33. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Gulf Oil Corp., The Texas Co., Magnolia Petroleum Co., Weed-Gayle Oil Co., Sun Oil Co., Atlantic Oil Producing Co., Humble Oil & Refining Co., Boling Dome Oil Corp., Sinclair Prairie Oil Co., Allied Minerals Corp., Texas-New York Development Co., Navarro Oil Co., Mackhank Oil Co., Brewster Tr. **Remarks:** Referred to as Newgulf. During 1936-37, Mackhank Oil Co. developed the Frio oil on e flank of field. **Heaving Shale:** Is found under Dipple, Farmer, and Fields tracts in Oligocene. Top of heave is around 4255 ft and 4880 ft.

BORDEN ABEL (Mackey)

A mi s Mackey, E. M. Cox Survey. **Means of Discovery:** Reflection seismograph and torsion balance, Magnolia Petroleum Co., 1937 and 1938. **Structure:** Possibly dome. **Discovery Well:** J. F. Hutchens' Borden 2, Jan. 20, 1940, flowed 18 bbls 34-gr oil daily, from 4758-4771 ft, ⅛-in choke, tubing pressure 1900 pounds. **Producing Formations:** Frio 4758-71 ft. **Deepest Hole:** Magnolia's Borden 1, 6557 ft, May, 1939. **Average Sand Thickness:** 11 ft. **Estimated Ultimate Recovery:** 600,000 bbls. **Daily Production, July 1, 1940:** 55 bbls from 1 well. **Cumulative Production at July 1, 1940:** 4761 bbls. **Productive Acreage:** Estimated 200; 40 productive. **Principal Leaseholders:** Magnolia, J. F. Hutchens.

DANEVANG*

4½ mi s Hilje, ETRR 58 and 73; L. P. Ogden surveys. **Means of Discovery:** Gas seeps and surface high; torsion balance and reflection seismograph, Cockburn Oil Corp., 1931, checked torsion balance Texas Gulf Producing Co., reflection seismograph, Amerada Petroleum Corp., Standard Oil Co. of Texas, 1939. **Extent of Development:** 2 1200-ft tests, no shows, 1600-ft test abnd in sand which showed oil. Steed Production Co.'s Lurker 1, Sec. 58, abnd 5026 ft, 1934. Texas Gulf Prod. Co.'s Kresta 1, abnd heaving shale 6909 ft, 1934. Cockburn Oil Corp.'s T. Connor 1, abnd Frio 6020 ft, 1936. The Texas Co.'s Weatherer 1, ET 100, abnd 6524 ft, 1937; Johnson 1, J. Bognal Sur, abnd 5401 ft, 1937. Helmerich & Payne's Myatt 1, Sec. 99, abnd 6515 ft. March, 1939. Humble's Ecker 1, BS&F No. 7, w of Danevang, abnd 6641 ft, April, 1939. Moore & Ahern-Cron & Gracey's Mauritz 1, BS&F No. 5, abnd 6515 ft, Feb. 1940. **Remarks:** Also known as Leach.

EAST BERNARD

5 mi nw East Bernard. **Means of Discovery:** Geophysics, Sterling Oil & Refining Co. Subsurface geology from Sterling's Janik 1, checked with reflection seismograph, H. C. Cockburn, 1939. **Discovery Well:** Cockburn's Leveridge 1, J. Scott Sur, 100 bbls 55-gr distillate daily, 11/64-in choke, perforations in Cook Mtn 8074-89 ft, tubg/csg pressure 3100/2150 pounds. **Type of Structure:** Probable dome. **Productive Acreage:** 1000; 40 developed. **Estimated Ultimate Recovery:** 960,000 bbls. **Daily and Cumulative Production, July 1, 1940:** None, no outlet. **Oil Outlet:** Texas Natural Gas Utilities Co. pipes gas to East Bernard. **Principal Leaseholder:** H. C. Cockburn. **Remarks:** Sept. 10, 1940, this field had not had a second test to confirm the discovery.

EGYPT*

East of Egypt. A. Edgar Survey. **Means of Discovery:** Geophysics, Humble Oil & Refining Co. **Extent of Development:** Humble's Duncan 1, attempted blow out 7700-07 ft, abnd 8051 ft, 1938. **Principal Leaseholder:** Humble.

FIVE CORNERS

W Withers field, A. H. Pierce, J. Caldwell and J. Hyland surveys. **Means of Discovery:** Torsion balance and reflection seismograph, The Texas Co., 1934-1935. **Discovery Well:** Texas Co.'s Pierce B-1, June 11, 1936, 2,000,000 cu ft gas daily at 5520 ft, Pierce B-5, Jan. 20, 1937, 80 bbls 25.3 gr oil daily, 5553 ft. **Type Structure:** Faulted dome. **Approximate Elevation:** 75-95 ft. **Producing Formations:** Frio, 5530 to 5590 ft. **Average Sand Thickness:** 50 ft. **Productive Acres:** Included with Withers. **Daily Production, July 1, 1940:** Included with Withers. **Estimated Ultimate Recovery:** Included with Withers. **Production Through June, 1940:** Included with Withers. **Deepest Hole:** Pierce B-1, discovery well, dr to 6511 ft, pb. **Oil Outlet:** The Texas Pipe Line Co., 6-in. **Gravity Oil:** 25.6. **Rigs Running, July 1, 1940:** Included with Withers. **Principal Leaseholder:** The Texas Co. **Remarks:** See Withers, Blue Basin, Magnet, and Pickett Ridge.

GLENFLORA*

2 mi sw Glenflora, Wm. Kinchelor Sur. **Means of Discovery:** Surface indications. **Extent of Development:** Daniels Bros.' Dayvault 1, Kinchelor Sur, abnd 6300 ft, 1933. Cockburn et al's Hamburger 1, WCRR No. 65, show at 4090 ft, Disc 3950 ft, Het 4020 ft, Frio 4117 ft, abnd 6012 ft, June, 1939. Eura B. Oil Co.'s Hamburger 1, gas in Jackson at 5859 and 6217 ft, abnd 7508 ft, July, 1940.

HILLJE

ETRR No. 101. **Means of Discovery:** Reflection seismograph, The Texas Co., 1935-36-37-38. **Discovery Well:** Texas' Peters 1, Oligocene 5220-30 ft, Sept. 10, 1939, 24 bbls 25-gr oil daily, 12/64-in ch, tbg pressure 1325 pounds, csg pressure 1875 pounds. **Productive Acreage:** 400; 200 developed. **Estimated Ultimate Recovery:** 750,000 bbls. **Daily Production July 1, 1940:** 170 bbls from 2 wells. **Cumulative Production July 1, 1940:** 15,844 bbls. **Estimated Reserve:** 734,156 bbls. **Oil Outlet:** Trucks. **Principal Leaseholders:** Mackhank Petroleum Co., Texas.

HUNGERFORD

N of Hungerford, A. Jackson Survey. **Means of Discovery:** Surface indications, Felmont Oil Corp., torsion balance, Gulf Oil Corp., 1931. **Extent of Development:** H. H. Given et al, three tests on Hudgins land, abnd, 850, 1350, and 3025 ft, 1931-2. Cullen & West's Hudgins 1, Jackson Sur, dry 5768 ft, 1932; Hawes 1, G. W. Singleton Sur, abnd 6850 ft, 1933, Cockburn & Hargroves' Hudgins 1, Muldoon sur, sw Frio, abnd 7530 ft, 1938. **Principal Leaseholder:** Gulf.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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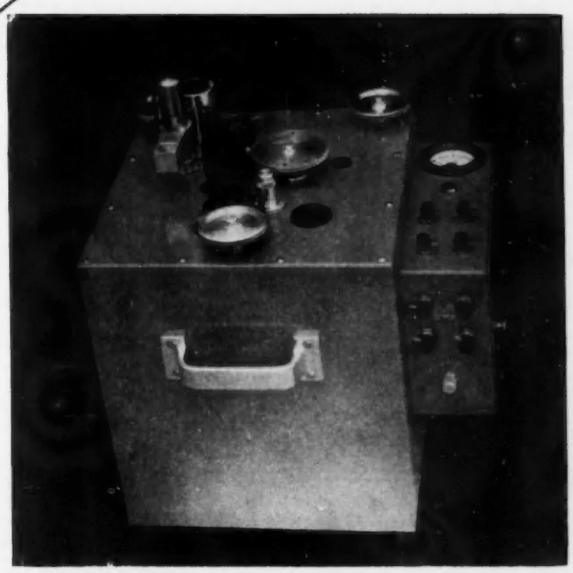

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LAKEVIEW†

3½ mi n El Campo, 6 mi n of Pickett Ridge field, H&TC 8. **Means of Discovery:** Surface geology. **Extent of Development:** Smith & McDannald's Mitchell 1, 6875 ft, pb 3283 ft, perforated csg 3185 to 3199 ft, 20 shots, made 2,700,000 cu ft gas daily, May 1, 1936. This well was accredited discovery of non-commercial gas field. **Type Structure:** Non-piercement dome. **Approximate Elevation:** 124 ft. **Producing Formations:** Catahoula 3185 to 3199 ft. **Deepest Hole:** Smith & McDannald's Ridgway 1, dr to 7607 ft; abnd Oct., 1933. **Principal Leaseholders:** Smith & McDannald, Shell Oil Co. **Heaving Shale:** Under Ridgway and Krasta tracts in Yegua. Top of heave around 6600 to 6800 ft.

LANE CITY*

Centering T. M. Blake, N. B. Williams surveys. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1937. **Extent of Development:** Humble's Schwartz 1, abnd 6527 ft, Sept., 1939; Rogers 1, Baker Sur, abnd 8252 ft, Oct., 1939; Henry 1, N. B. Williams Sur, abnd 6155 ft, Nov., 1939. **Principal Leaseholders:** Humble, Continental Oil Co.

LISSIE‡

3 mi s Lissie, L. P. Jennings and GH&H surveys. **Means of Discovery:** Reflection seismograph and torsion balance, Sun Oil Co., 1934. **Extent of Development:** Strake Pet. Co.'s Strunk 1, abnd 9500 ft, 1938; Poole 1, abnd 7012 ft, 1938, Sun Oil Co.'s Poole 1, GH&H Sur, abnd 7349 ft, 1939, Campbell & Harrison's Mitchell 1, GH&H Sur, abnd 7120 ft, Dec., 1939. Strake's Poole 1, GH&H Sur, Abs. 156, abnd 10,116 ft, April, 1940. In July, 1940, Gulfboard Oil Co. took over well for tests of sands in Yegua and Cook Mountain at 6200 and 7200 ft. These tests established gas field, 1,850,000 ft daily, 25 bbls dist, 5/32-in ch, tbg/csg pressure 2000/2250 pounds, from Yegua 6728-34 ft. **Principal Leaseholders:** Strake, Sun, Texas Co., Gulfboard Oil Co., Campbell & Bennett.

LOUISE

3 mi se Louise. Morris & Cummings Sur, Sections 19, 22, 23, 25, 27, 28, 29 and F. Walnut, T. W. Hurd, J. M. Brownson surveys. **Means of Discovery:** Refraction seismograph, Pure Oil Co., 1928. **Discovery Well:** Pure's Stewart 1, Sec 25, dr to 8015 ft, completed at 5976-5983 ft, Dec. 14, 1933, flowing 262 bbls 38-gr oil, ½-in ch, from Frio. **Structure:** Deep dome. No direct evidence of salt or cap rock. **Producing Formations:** Marginulina at 5135-5185 ft; Frio at 5976-5983 ft, 6431-6445 ft, and at 7143 ft. **Approximate Elevation:** 75-95 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 1700. **Daily Production, July 1, 1940:** 879 bbls from 42 wells. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through June, 1940:** 2,833,421 bbls. **Indicated Remaining Reserve:** 7,166,579 bbls. **Deepest Hole:** Pure's Stewart 2, dr to 8271 ft in Frio, Dec., 1934, pb and comp as a producer, March, 1935; tested at 8266 ft. **Oil Outlet:** Texas Pipe Line Co., 4-in. **Range of Gravity:** 26-38. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Pure, Gulf Stream Oil Co. **Heaving Shale:** Is found.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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MAGNET

Southeast of Withers, Smith & McKenzie, J. Crownover and J. S. Castleman surveys. **Means of Discovery:** Torsion balance, H. C. Cockburn, 1931. **Discovery Well:** Cockburn Oil Corp.'s Fee 1, Sept. 4, 1936, 4 bbls fluid per hour, later killed and completed for 120 bbls daily, 5521-60 ft. **Type Structure:** Dome. **Approximate Elevation:** 60-90 ft. **Producing Formations:** Marginulina-Frio 5490 to 5560 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 1500; 800 developed. **Daily Production, July 1, 1940:** 1285 bbls from 48 wells. **Estimated Ultimate Recovery:** 15,000,000 bbls. **Production Through June, 1940:** 1,086,619 bbls. **Indicated Remaining Reserve:** 13,913,383 bbls. **Deepest Hole:** C. E. McDonald's Sweet 1, salt water at 5854 ft, abnd Jan., 1937. **Oil Outlet:** Texas Pipe Line Co., 6-in. **Gravity Oil:** 25.5. **Rigs Running, July 1, 1940:** Two. **Principal Leaseholders:** Texas Crusader Oil Co., Atlantic Refining Co., Humble Oil & Refining Co., Grey & Wolfe, Peyton Bros.

MANCHA*

9 mi nw El Campo, N. Mancha Survey. **Means of Discovery:** Surface indications, torsion balance, seismograph, Stanolind Oil & Gas Co., Houston Oil Co., 1931. **Extent of Development:** The Texas Co. has drilled several tests, deepest 1600 ft, Gant & Teas' Hahn 1, Mancha Sur, gas sd 1475-96 ft, 3328-44 ft, abnd Vicksburg 5550 ft, 1932. Navarro Oil Co.'s Schoelman 1, abnd 7732 ft, 1935. M. C. Culver's Pryor 1, Robinson, core test, abnd 1550 ft, 1939.

NORTH LOUISE*

North of Louise field, J. J. Dillard Survey. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1937. **Extent of Development:** Shell's Steves 1, abnd 7362 ft, 1937, Humble Oil & Refining Co.'s Hancock 1, Miller Sur, abnd 5685 ft, 1938. Crown Central Pet. Corp.'s Babcock 1, S. P. Middleton Sur, abnd 5517 ft, 1938, O. G. Garvey's Stockton 1, S. P. Middleton Sur, abnd 4604 ft, Apr., 1940. Humble's Willis 1, M&C Sur, abnd 7004 ft, Apr., 1940. Coffee & Boyle's Britton 1, F. Page Sur, abnd 5761 ft. **Principal Leaseholders:** Shell, Skelly Oil Co., Felmont Oil Corp., O. C. Garvey, Coffee & Boyle.

PICKETT RIDGE–KUBELA

1 mi se of Pierce, I&GN 24, 37, 38, 39 and 76, J. Telfarner, 2, H&TC, Abs 129, G. W. Reynolds, G. Gilford surveys. **Means of Discovery:** Torsion balance, seismograph reflection, The Texas Co., 1934. Surface and sub-surface geology. **Discovery Well:** Texas Co.'s Pierce A-2, 12 bbls 23.9-gr oil per hour from 4704 ft, June 24, 1935. Later killed due to high gas/oil ratio. Drilled to 4710 ft, came in for 16 bbls per hour, July 9, 1935. **Structure:** Nosing. **Producing Formations:** Frio from 4596 to 4719 ft, 4770-90. **Approximate Elevation:** 90-120 ft. **Average Sand Thickness:** 10-25 ft. **Productive Acres:** 2000; 1200 developed. **Daily Production, July 1, 1940:** 1597 bbls from 55 wells. **Estimated Ultimate Recovery:** 15,000,000 bbls. **Production Through June, 1940:** 2,945,044 bbls. **Indicated Remaining Reserve:** 13,913,383 bbls. **Deepest Hole:** The Texas Co.'s Pierce Estate A-33, se flank test, abnd 8888 ft, Sept., 1937. **Oil Outlet:** Texas Pipe Line Co., 6-in. **Range of Gravity:** 22-25.7; 4770-90 ft, 34 degrees. **Rigs Running, July 1, 1940:** Two. **Principal Leaseholders:** The Texas Co., Rio Bravo Oil Co., Gilcrease Oil Co., C. Andrade. **Remarks:** One well is dr to each 20 acres. Texas Crusader Oil Co.'s Koubela 1, 8000 ft, w of Pickett Ridge came in Nov., 1936. Some say it is a new field.

RIO*

7 mi n Hilje, WCRR 42, 43, 44. L. Conkrite. **Means of Discovery:** Geophysics, Humble Oil & Refining Co., Rio Bravo Oil Co., Shell Oil Co. **Extent of Development:** S. G. Harrison's Harfast 1, L. Conkrite Sur, dry at 5018 ft, May, 1937. **Principal Leaseholders:** Humble, Shell.

SOUTHEAST WHARTON*

3 mi se Wharton, F. Biggam and J. Tumblinson surveys. **Means of Discovery:** Reflection seismograph and torsion balance, Shell Oil Co. **Extent of Development:** Hutchinson & Dickson's Reid 1, Biggam Survey, abnd 6600 ft, 1934. Shell's Seyler 1, quit at 5715 ft in Frio, Dec., 1936. J. F. Hutchin's Wensley 1, J. Tumblinson Sur, dry at 5472 ft, April, 1937; Orsak 1, dry 3080 ft, August, 1937. **Principal Leaseholder:** Shell.

SPANISH CAMP†

East of Spanish Camp, R. Kuykendall, D. Wade and S. F. Austin Nos. 1 and 3. **Means of Discovery:** Reflection seismograph, and torsion balance, Felmont Oil Corp., 1934. Geophysics, Humble Oil & Refining Co., The Texas Co., and Standard Oil Co. of Kansas, 1934. Core drilling, Humble, 1939. **Discovery Well:** Felmont Oil Corp.'s Mitchell 1, D. Wade Sur, Dec. 15, 1936, 4,000,000 cu ft gas with distillate through ¼-in ch, 3015 ft. **Type Structure:** Believed to be nosing. **Producing Formations:** Miocene at 2910 to 3020 ft. **Productive Acres:** 1280, gas only. **Daily Production, July 1, 1940:** Gas. **Deepest Hole:** Albert Plummer's Logue 1, blew out at 6510 ft, salt water 8159-69 ft, pb 3070 ft, comp gas well, March, 1937. **Oil Outlet:** Houston Pipe Line Co., 12-in gas line. **Gravity Oil:** Gas. **Rigs Running, July, 1939:** One. **Principal Leaseholders:** Humble Oil & Refining Co., Atlatl Oil Co., Houston Oil Co.

WITHERS

8 mi se Pickett Ridge, J. Caldwell, E. P. Ogden, Wm. Pettus surveys. **Means of Discovery:** Torsion balance, reflection seismograph, The Texas Co., 1934. **Discovery Well:** The Texas Co.'s Pierce C-1, Jan. 4, 1936, 15 bbls per hour 26-gr oil from 5549 ft. **Type Structure:** Dome. **Approximate Elevation:** 60-90 ft. **Producing Formations:** Frio 5470 to 5569 ft. **Average Sand Thickness:** 50 ft. **Productive Acres:** 3800; 3800 developed (includes Five Corners). **Daily Production, July 1, 1940:** 4447 bbls. **Estimated Ultimate Recovery:** 20,000,000 bbls (includes Five Corners). **Production Through June, 1940:** 4,188,417 bbls. **Indicated Remaining Reserve:** 15,811,583 (includes Five Corners). **Deepest Hole:** Discovery well, dr to 7244 ft. **Gravity Oil:** 25-26. **Oil Outlet:** Texas Pipe Line Co., 6-in. **Rigs Running, July 1, 1940:** Seven. **Principal Leaseholders:** The Texas Co., Pan-American Production Co.

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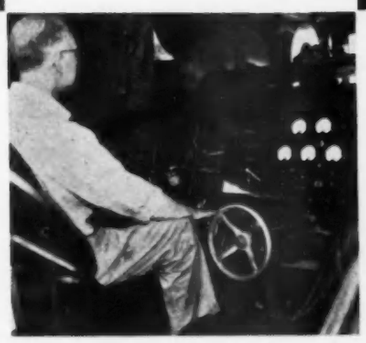

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LOUISIANA

ACADIA PARISH

BAYOU MALLET

6 mi se Eunice, Acadia-St. Landry Parish line in 14, 47, 51 and 52-7s-1e. **Discovery Means:** Seismograph reflection, Superior Oil Producing Co., 1935. Shell Oil Co. worked in the area with torsion balance, 1934. Adams Louisiana Corp. ran a profile along w line 24, 25, 36-7s-1e, and along the e, w and s line of 1-8s-1e. **Discovery Well:** Superior and Woodley Pet. Co.'s Adams Smith 1, Jan. 4, 1936, 3,200,000 ft of gas, 20 bbls 46.3-gr distillate, perforations 6385-98 ft. First commercial oil well, same operator's Bradley 1, from perforations, 6385-90 ft (11 shots), 340 bbls 27.9-gr oil, March 25, 1936. **Type of Structure:** Dome. **Producing Formations:** Discorbis and Heterostegina 6386 to 6395 ft; Marginulina 6996 to 7000 ft and 7190 to 7198 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 100; 100 developed. **Daily Production, July 1, 1940:** 220 bbls from 5 wells. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through June, 1940:** 295,990 bbls. **Indicated Remaining Reserve:** 704,010 bbls. **Deepest Hole:** Superior's H. Goss 1, 13-7s-1e, dry in Vicksburg 8405 ft, July, 1936. **Oil Outlet:** Pipe line to Standard. **Gravity Oil:** 6385 to 6390 ft, 27.9; 7190 to 7198 ft, 46.3; 6996 to 7000 ft, 36.6. **Rigs Running, July 1, 1940:** None. **Principal Leaseholder:** Superior Oil Producing Co.

BOSCO

Centering around SWc Section 26, SEc 28, E½ 33, N 2/3 34 and NEc Section 34-8s-3e. **Means of Discovery:** Refraction seismograph and torsion balance, Pure Oil Co., 1929. **Discovery Well:** Superior Oil Co. and Pure Oil Co.'s P. O. Hernandez 1, April 26, 1934, 32 bbls 38-gr oil hourly through 12/64-inch choke, 7845-7850 ft, td 8915 ft. **Structure:** Apparently salt dome, salt not reached. **Producing Formations:** Discorbis (Hernandez sands) at 7830 ft, Heterostegina (Mire sands) 8060 ft, 8353-63 ft, Marginulina (Richard sands) 8573 to 8683 ft, 8883 ft, second Marginulina sand 9041 ft, third Marginulina sand 9118 ft. All the producing sands are in the Oligocene series. **Average Sand Thickness:** 90 ft. **Productive Acres:** 1500. **Daily Production, July 1, 1940:** 5147 bbls. **Estimated Ultimate Recovery:** 30,000,000 bbls (includes Cankton). **Production Through June, 1940:** 19,643,250 bbls. **Indicated Remaining Reserve:** 10,356,750 bbls. **Deepest Hole:** Superior's W. V. Larcade 5, 35-8s-3e, workover, drilled to 10,432 ft, sw lower horizons, pb and comp 8075 ft, February, 1938. **Casing Programs:** Superior, 13⅜-in. 1194 to 1266 ft; 9⅝-in. 7792 to 8067 ft; 7-in. 8627 to 8900 ft, slotted pipe set on bottom. **Oil Outlet:** Standard P. L. Co. 6-in. **Range of Gravity:** 36-59.7. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Pure and Superior on 50-50 basis have 6500-acre lease block, assembled originally by former. **Remarks:** Discovery had about dozen oil and gas shows besides that at completion level. Its total depth is 8916 ft in Frio, having gone through Heterostegina and Marginulina and into Frio. Water level found around 7870 ft. Several wells in field making salt water with some as high as 95 percent. One well dr to each 20 acres. See Cankton, now considered part of same field.

BRANCH*

West edge Twp. 8s-2 and 3e, and west of Sections 17 and 20. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934. **Extent of Development:** Humble Oil & Refining Co.'s Meche-Leger 1, Sec. 83-8s-2e, abnd 10,000 ft, May, 1940. **Structure:** Indicated dome. **Principal Leaseholder:** Humble.

CANKTON

2 mi ne of Bosco, centering Section 26-8s-3e. **Means of Discovery:** Reflection seismograph, Superior Oil Co., Shell Oil Co., 1935. Also surface indications. **Discovery Well:** Superior's A. Savoie 1, Dec. 23, 1936, 65 bbls 27-gr oil daily, 18/64-in choke, 5319½ ft. Later worked over and came in for 28 bbls 28.7-gr oil daily, Jan. 13, 1937, from perforations at 5320-20½ ft. **Structure:** Dome or nose. **Producing Formations:** Miocene sands, 5316 to 5323½ ft; 5799 to 5801 ft; 5984 to 5990 ft. **Average Sand Thickness:** 6 ft. **Productive Acres:** Included with Bosco. **Daily Production, July 1, 1940:** Included with Bosco. **Deepest Hole:** Discovery well, drilled to 9428 ft, pb. **Oil Outlet:** Pipe line to Standard, La. **Gravity Oil:** 5799 ft, 33; 5990 ft, 40.8; 5913 ft, 36. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Superior, Shell. **Remarks:** This field is partially in St. Landry Parish and adjoins Bosco field, Acadia Parish, being generally known by the latter name.

CHURCH POINT*

Sections 19, 24, 25 and 36-7s-1e. **Means of Discovery:** Gas seeps, surface geology; reflection seismograph, Woodley Petroleum Co., Superior Oil Producing Co., 1933; reflection seismograph, Hoard Exploration Co. for Strake Pet. Co., 1937. **Extent of Development:** Woodley et al's Lincoln 1, Section 36, quit at 3000 ft, 1934. Woodley and Superior Oil Producing Co.'s Daigle 1, Section 24, dry at 8415 ft, 1934. Woodley's Newman 1, Section 24, gas show, 7925-41 ft, salt water sand in Frio, 8125 ft, April, 1934. T. G. Markley's Daigle Farms 1, 19-7s-2e, faint odor oil 8479-89 ft, gray sand 8135-43 ft, dry 8506 ft, November, 1937. T. G. Markley's Vincent 1, abnd 9040 ft, May, 1939. Tennark's Freeland 1, Sec. 64-7s-2e, topped Het 7560 ft, abnd 8502 ft, Jan., 1939. Tolson et al's Turner 1, Sec. 25-7s-1e, abnd 8765 ft, June, 1939. **Principal Leaseholders:** Superior, Woodley, T. G. Markley. **Remarks:** Sometimes called Baptiste Academy. I. N. Pharis made deal with Amerada for block centering Sec. 73-7s-2e. Amerada reflection seismograph work is reported to have shown a fault. See Bayou Mallet.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

EAST TEPETATE

Northeast Tepetate field, centering Secs. 16, 20, 26, 29-7s-1w. **Means of Discovery:** Geophysics, Gulf Oil Corp., 1934. **Discovery Well:** Vincent & Welsh and E. J. Nicklos' McManus 1, Sec. 21-7s-1w, initial flow 24 bbls 25-gr pipe-line oil daily, ¼-in choke, 3525-35 ft, tbg/csg pressure 680/750 pounds, June 11, 1940. Later well was acidized 1500 gal, 30-bbls daily 24-gr oil, 80 percent sw, killed perf 3528-33 ft, comp gas-distillate well, 3,000,000 feet daily, tbg/csg pressure 1350/1350 lbs. **Productive Acreage:** 100, 20 developed. **Estimated Ultimate Recovery:** 350,000 bbls. **Daily and Cumulative Production, July 1, 1940:** None, discovery well testing. **Deepest Hole:** Prior to discovery, Continental's Vincent 1, sec 26-7s-2w, abnd 9015 ft, March, 1940. **Gravity:** 52-gr gas-distillate. **Principal Leaseholders:** Humble Oil & Refining Co., Gulf, Sun Oil Co., Tide Water Associated Oil Co., Vincent & Welsh, E. J. Nicklos, Continental Oil Co. **Remarks:** This field variously known as Richie, Trilby and Iota. See North Iota prospect.

EGAN*

Section 30-9s-1w. **Means of Discovery:** Torsion balance, Calcasieu Oil Co., 1927. **Extent of Development:** Gulf Oil Corp.'s Houssiere-Latrielle A-1, abnd shale 5801 ft, 1928. **Principal Leaseholders:** Gulf Oil Corp., Magnolia Pet. Co., Sun Oil Co. **Remarks:** In August, 1940, Daneiger Oil & Refining Co. was rptd planning deep test on Magnolia farmout. Daneiger leased 1700 acres.

ESTHERWOOD*

Section 51-10s-1w. **Means of Discovery:** Reflection seismograph; Stanolind O. & G. Co., 1935. Magnolia Petroleum Co., Continental Oil Co., and Gulf Refining Co., also worked the area with geophysics. **Extent of Development:** Magnolia Pet. Co.'s Homeseekers 1, salt water sand 5514-18 ft, electric logging device showed 12 ohms resistivity at 5870-90 ft, abnd 9456 ft, July, 1936. **Principal Leaseholders:** Stanolind, Magnolia, Gulf.

IOTA*

Sections 14, 25, 26, 35, 36-8s-2w. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1929; geophysics, Magnolia Petroleum Co., 1934, 1937. **Extent of Development:** Magnolia Petroleum Co.'s Duson 1, 14-8s-2w, dry 8753 ft, Dec., 1937. **Principal Leaseholder:** Magnolia Petroleum Co. has dropped lease around dry hole and secured leases ne of test.

JENNINGS (Evangeline)

Irregular Sections 40, 41, 42, 45, 46, 47, 48-9s-2w. **Discovery Means:** Elevation, gas escapes. Subsurface geology around the flanks. **Discovery Well:** Jennings Oil Co.'s No. 1, Section 46 (later Gulf's Jennings-Clemont lease), blew in, August, 1901, spraying oil and sand in considerable quantity from 1882 ft. **Type Structure:** Piercement type dome, top cap rock 2000 ft, salt 3716 ft. **Producing Formations:** Plio-Miocene sands 1500 to 2121 ft; Miocene 2700 to 4500 ft; Oligocene 5021-5150 ft, 5230-5350 ft, 5480 to 5530 ft, 5780 to 5790 ft, 6355 to 6367 ft, 6460 ft to 6520 ft, 6650 to 6719 ft, 6800 to 6875 ft, 6894-6940 ft, 7025 to 7156 ft, 7225 to 7456 ft. North flank sand 6954-77 ft, 6791-6829 ft, 7284-7314 ft. South side, 7528-70 ft and 8204-29 ft. **Average Sand Thickness:** 55 to 100 ft. **Productive Acres:** 630; 480 developed. **Daily Production, July 1, 1940:** 14,000 bbls from 169 wells. **Estimated Ultimate Recovery:** 130,000,000 bbls. **Production Through June, 1940:** 73,861,000 bbls. **Indicated Remaining Reserve:** 56,139,000 bbls. **Deepest Hole:** Glassel & Glassel's Trushel 6, Sec. 42-9s-2w, topped Marg 6945 ft, dr 9132 ft, pb, comp 7470-7570 ft, Nov., 1938. **Oil Outlets:** Barge, Continental Oil Co.'s 6-in, Standard of Louisiana's 6-in, Glassel & Glassel's 6-in. **Gravity Oil:** 1900 to 2100 ft, 20 to 22 degrees; 3550 to 3650 ft, 26 to 30 degrees, all other depths from 33 to 40 degrees. **Rigs Running, July 1, 1940:** Two. **Principal Leaseholders:** The Texas Co., Stanolind Oil & Gas Co., Gulf Oil Corp., Abshire-Bolyard Oil Co., Ratcliff Oil Co., Port City Oil Co., Jennings, Superior Oil Co., Glassel et al, W. B. Burton, Shell Oil Co., F. W. Bennett. **Remarks:** Superior and Shell opened new sand on s and w side of the field in 1936 and revived drilling. New sand was discovered on n flank in 1938 by Superior. This field was the first discovered in South Louisiana and has produced more oil than any other. Has been known as Evangeline. **Heaving Shale:** Reported in Shell's Community 3, 41-9s-2w, at 7492 ft.

MIDLAND*

Sections of 46, 47 and 48-10s-1 and 2w. **Means of Discovery:** Torsion balance and reflection seismograph, Gulf Oil Corp., Continental Oil Co., reflection seismograph, 1938. **Extent of Development:** Gulf's Broussard 1, 48-10s-2w, tried to blowout 9678 ft, set 7-in csg 9622 ft, top Heterostegina 9635 feet, ohm 9955 ft, Jan., 1938. **Principal Leaseholders:** Gulf, Continental.

MOWATA*

Near Mowata, centering around 19, 30-7s-1e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1936. **Extent of Development:** John Mayo et al's Bank of Commerce 1, 19-7s-1e, topped dry sand 8551 ft equivalent to Ortego sand at Tepetate, abnd 9008 ft, July, 1937. **Principal Leaseholders:** Shell Oil Co. on w side of Shell's block, Rycade, Humble, Tide Water, Stanolind and Sun have acreage. Magnolia, Vincent & Welsh, and Shell have been dropping acreage. **Remarks:** See Trilby and North Iota prospects.

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NORTH CROWLEY

North of Crowley, centering around Sections 33, 34, 45-8s-1e. **Discovery Means:** Surface geology. Reflection seismograph and gravity work, Humble Oil & Refining Co., 1935. **Discovery Well:** Humble's Federal Land Bank 1, Sept. 22, 1937, 28 bbls 36-gr oil per hour, ¼-in choke at 8102 ft. **Type Structure:** Believed to be salt dome but no domial material has been encountered. **Producing Formations:** Oligocene sands at 7176-98 ft; 8482-87 ft; 7728-35 ft; 8082-8300 ft; 8608-13 ft; 8778-84 ft; 8810-15 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 500, 360 developed. **Daily Production, July 1, 1940:** 4305 bbls from 26 wells. **Estimated Ultimate Recovery:** 8,100,000 bbls. **Production Through June, 1940:** 1,907,969 bbls. **Indicated Remaining Reserve:** 6,192,031 bbls. **Deepest Hole:** Humble's I. Trahan 1, se of production, 3-9s-1e, 10,632 ft, dry May, 1938. Made tests around 9700 ft, showed salt water. **Oil Outlets:** Standard of Louisiana's 6-in. **Gravity Oil:** 8100 ft, 36-gr; 7192-98 ft, 33-36-gr; 8607-11 ft, 35.3-gr. **Rigs Running, July 1, 1940:** One. **Principal Leaseholders:** Humble (9000-acres). **Remarks:** The discovery well was drilled to 9339 ft. A series of drill-stem tests were made up the hole to the producing sand. All tests showed sw except last sand tested.

NORTH IOTA*

Section 10-8s-1w. **Means of Discovery:** Torsion balance, Calcasieu Oil Co., 1929; Amerada Petroleum Corp. and Ohio Oil Co., reflection seismograph, 1939. **Extent of Development:** Joint test of Calcasieu Oil Co., Union Sulphur Co. and Magnolia Petroleum Co., abnd in shale, 6229 ft, May, 1930. **Principal Leaseholder:** Magnolia. **Remarks:** See Mowata and Iota prospects.

NORTH TEPETATE

Northeast Tepetate field centering Sec. 12-7s-2w, secs 7, 13, 17, and 7-7s-2w. **Means of Discovery:** Reflection seismograph, Atlantic Refining Co., 1937. **Type of Structure:** Probable deep dome. **Discovery Well:** Atlantic's Klumpff 1, Oct. 11, 1938, flowing 83 bbls 55.8-gr distillate and 1,440,000 ft gas daily through 5/16-in choke from 7960-70 ft. **Producing Formations:** Marginulina-Frio-Oligocene sds 7945-86 ft; 8468-591 ft; 8976-81 ft; 9040-46 ft. **Productive Acreage:** 400, 200 developed. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Daily Production, July 1, 1940:** 120 bbls from 4 wells. **Cumulative Production, July 1, 1940:** 91,937 bbls. **Estimated Reserve:** 1,908,063 bbls. **Deepest Hole:** Atlantic's Klumpp 5, sec 7-7s-1w, east side of field, dr 9487 ft, comp 9040-46 ft, Sept., 1939. **Oil Outlet:** Atlantic's 3-in to Tepetate. **Gravity Oil:** 7960-70 ft, 55.8-gr; 8478-8504 ft, 55.4-gr; 8976-81 ft, 50.8-gr; 9040-46 ft, 51-gr. **Principal Leaseholder:** Atlantic.

NORTHEAST EGAN*

4 mi ne Egan prospect, around Sections 14, 15-9s-1w. **Means of Discovery:** Torsion balance, Calcasieu Oil Co., 1927; reflection seismograph, Adams Louisiana Corp., 1934; geophysics, Shell Oil Co. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, Magnolia Petroleum Co., Sun Oil Co.

RIVERSIDE*

Sections 42-8s-2w, 42, 43-8s-3w, 59, 60, 61, 62-9s-2w, 37, 38, 39, 1-9s-3w. **Means of Discovery:** Torsion balance, Paul Brandt, 1930. Structure type prospect. Atlantic Refining Co. did work in this area in 1936. **Extent of Development:** Mills Bennett Production Co.'s Riverside Irrigation 1, Section 61, dry in shale, 7603 ft, 1934. **Principal Leaseholders:** Shell Oil Co., Sun Oil Co., Continental Oil Co.

SOUTH CROWLEY

4 mi s Crowley, centering around Section 22-10s-1e. **Discovery Means:** Reflection seismograph, Humble Oil & Refining Co., 1934. Shell Oil Co., torsion balance. **Discovery Well:** Humble's Boyd & Finch 1, April 29, 1938, 21 bbls per hour, ¼-in choke, 34.7-gr, started making sw, killed; brought in again but gas/oil ratio was 4150 to 1, also showing sw. Was killed and completed on May 23, 1938, 35 bbls 35.2-gr oil daily at 7308-14 ft. **Type Structure:** Dome. **Producing Formations:** Miocene 7308-14 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 100; 20 developed. **Daily Production, July 1, 1940:** None. **Estimated Ultimate Recovery:** Field abandoned. **Production Through June, 1940:** 1756 bbls. **Deepest Hole:** Discovery well, drilled to 10,222 ft. **Gravity Oil:** 7308-14 ft, 35.2-gr. **Rigs Running July 1, 1940:** One (see remarks). **Principal Leaseholders:** Humble, Sun Oil Co., Stanolind Oil & Gas Co., Ohio Oil Co. **Remarks:** On Sept. 2, 1940, Humble re-established field completing Leger 1, 7612-foot wildcat, for 33 bbls 36-gr pipe-line oil hourly through ¼-in choke, from Miocene, topped 7602 ft. Tubing and casing pressures equalized at 1100 pounds. Field has apparent multi-zone possibilities, as drill-stem test at 7552-60 ft recovered 13 thribbles 36-gr oil 6 minutes through ¼-in chokes under 60 pounds pressure. A strata at 7560-70 ft drill-stem tested 23 thribbles oil in 8 minutes under 110 pounds pressure. The well, in Section 22-10s-1e, is east offset to firm's Boyd-Finch 1. Test is the ninth for the prospect, 4 deep dry holes preceding the original discovery, and 3 dry holes following. Leger 1 was drilled on a block assembled by Lew Wentz, and includes acreage once relinquished by Humble. There is evidently a fault of considerable displacement between Boyd-Finch 1 and Leger 1, as the 7602-ft sand in Leger 1 correlates with the 7304-ft sand in Finch 1, which was drilled to 10,222 ft, encountering sands with oil odor at 8260-75 ft.

TEPETATE

6 mi nw of Iota, centering Sections 28, 29, 30 and 34-7s-2w. **Means of Discovery:** Torsion balance, Mordelo L. Vincent, 1930; reflection seismograph, Continental Oil Co., 1934. **Discovery Well:** Continental's Ortigo 1, 28-7s-2w, 200 bbls 35.5-gr oil, 8313 ft, August 16, 1935. Estimated 20,000,000 ft gas, 8303 ft, August 2, 1935. **Structure:** Deep dome or an anticline-type close structure. **Producing Formations:** Lower Marginulina-Frio sands, 8297 to

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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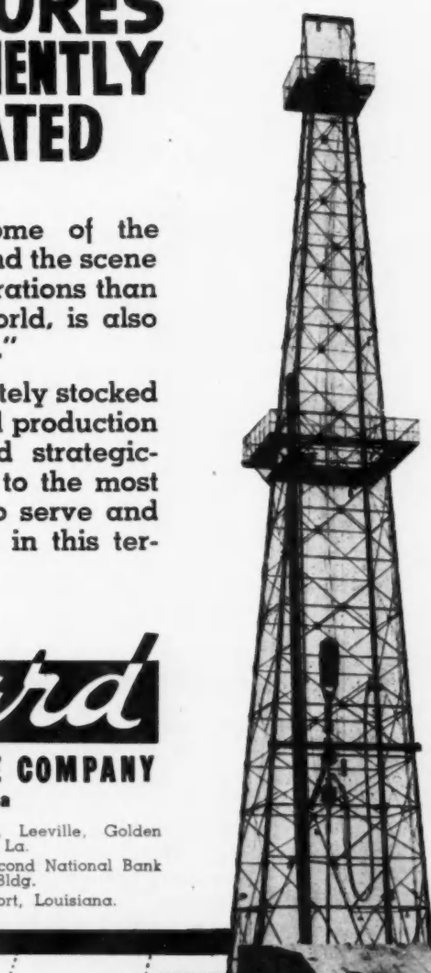

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8323 ft; 9165-9220 ft; gas sand 8258 ft and 7773-77 ft. **Average Sand Thickness:** 35 ft. **Productive Acres:** 1400, developed. **Daily Production, July 1, 1940:** 4900 bbls from 54 wells. **Estimated Ultimate Recovery:** 25,000,000 bbls. **Production Through June, 1940:** 8,548,204 bbls. **Indicated Remaining Reserve:** 17,451,796 bbls. **Deepest Hole:** Went to Oligocene at 9487 ft, 1939. **Oil Outlet:** Continental's 8-in oil line and a 6-in gas line to Calcasieu river, 50 mi; gas is sold to industries at Lake Charles. **Range of Gravity:** 33-45. **Rigs Running July 1, 1940:** None. **Principal Leaseholder:** Continental. **Remarks:** First Lower Marginulina-Frio production found in the Louisiana Gulf Coast. Referred to as Basile. Continental Oil Co. has a gasoline plant in field which is capable of handling 50,000,000 ft gas daily.

WEST CROWLEY*

Centering Section 37-10s-1e. **Means of Discovery:** Reflection seismograph, Strake Petroleum Corp., 1938. **Extent of Development:** Providence Oil Company's J. John Estate 1, dry 8277 ft, Oct., 1939. **Principal Leaseholder:** Strake Petroleum Corp.

WEST MERMENTAU

2½ mi sw South Jennings fld, centering Sec. 12-10s-2w. **Means of Discovery:** Seismograph, H. M. Naylor and others. **Discovery Well:** H. M. Naylor Oil Co.'s Acadia Development Co. 1, Sec. 12-10s-2w, flowed initially 6 bbls 40-gr oil hourly through 3/16-in choke, June 19, 1940. Production at 9705-18 ft drowned due to faulty cement seal. After series of several tests at various points, well was comp 50 bbls distillate daily, 2,000,000 ft of gas. 12/64-in choke, 9120-35 ft. **Producing Formations:** Marginulina sds 9120-30 ft. To Sept. 10, 1940, only discovery had been completed. **Estimated Productive Acreage:** 400, 20 developed. **Estimated Ultimate Recovery:** 500,000 bbls, of which none but gauge oil has been produced by July 1, 1940. **Deepest Hole:** Discovery well, dr to 9997 ft, top Marginulina 9980 ft. **Producing Formation:** Heterostegina at 9120-30 ft. **Gravity Oil:** 43-deg. **Principal Leaseholders:** H. M. Naylor, Continental Oil Co.

ALLEN PARISH

BAYOU BLUE SPRINGS*

Section 23, 10-6s-3w. **Means of Discovery:** Reflection seismograph, 1938, Stanolind Oil & Gas Co., Humble Oil & Refining Co., Sun Oil Co., Magnolia Petroleum Co. **Principal Leaseholder:** Stanolind. **Remarks:** Also known as Elton.

BEL*

Section 28-6s-7w, sw Reeves. **Means of Discovery:** Surface geology, geophysics, 1934-35, Humble Oil & Refining Co., reflection seismograph, 1937. **Extent of Development:** Humble's J. A. Bel 1, slight gas 3760 ft, top sand, 7769 ft, blew out, caught fire, cratered and abnd 7770 ft, May 17, 1936. Frio topped at 5813 ft. J. A. Bel 2, gas show 2943 ft, perforated 2876 to 2881 ft, 9400 ft, odor of oil and gas, abnd 9833 ft, Sept. 11, 1936. **Principal Leaseholder:** Humble.

INDIAN VILLAGE*

NW Lock-Moore, 10-7s-6w. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., 1936. **Extent of Development:** Undrilled. **Principal Leaseholders:** Stanolind, Magnolia Petroleum Co.

MITTIE*

2 mi n and e Ten Mile. Section 21-3s-5w, 1-4s-5w, 6-4s-4w. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934, Superior Oil Co., 1936, 1937, Phillips Pet. Co., reflection seismograph, 1939. **Extent of Development:** Humble's Industrial 1, show oil, 7460-64 and 7564-70 ft, dr in Cockfield 8094 ft, 1935, was abnd. Phillips Pet. Co.'s Industrial Lbr. Co. 1, sec 1-4s-5w, topped Wilcox 10,283 ft, abnd 10,305 ft, Jan., 1940. **Principal Leaseholders:** Phillips Pet Co., Gulf Oil Corp.

NORTH ELTON

Sec. 22, 23-6s-3w. **Means of Discovery:** Geophysics, Bel Oil Corp., 1938. Several companies worked in the area with reflection seismograph. **Discovery Well:** Bel Oil Corp.'s Bel Estate 1, June 14, 1939, 50 bbls 55-gr dist in Oligocene, 7272 to 7292 ft. July 5, 1939, flowed 20 bbls distillate and 1,500,000 cubic ft gas daily through 10/64-in choke. **Type Structure:** Anticline. **Producing Formations:** Oligocene (Marginulina-Frio) sands, 7272 to 7292 ft, 7418-35 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 320, entirely developed by 2 wells. **Daily Production:** Gas distillate. **Deepest Hole:** Discovery drilled to 9010 ft. **Oil Outlets:** Sold locally. **Gravity Oil:** 7272 to 7292 ft, 56. **Rigs Running July 1, 1940:** None. **Principal Leaseholders:** Bel Oil Corp., Stanolind Oil & Gas Co.

OBERLIN

Near town of Oberlin, Section 19-5s-3w, 5-5s-4w. **Means of Discovery:** Geophysics, Gulf Oil Corp., 1937, W. T. Burton and Barnsdall Oil Co., reflection seismograph, 1939. **Extent of Development:** Undrilled.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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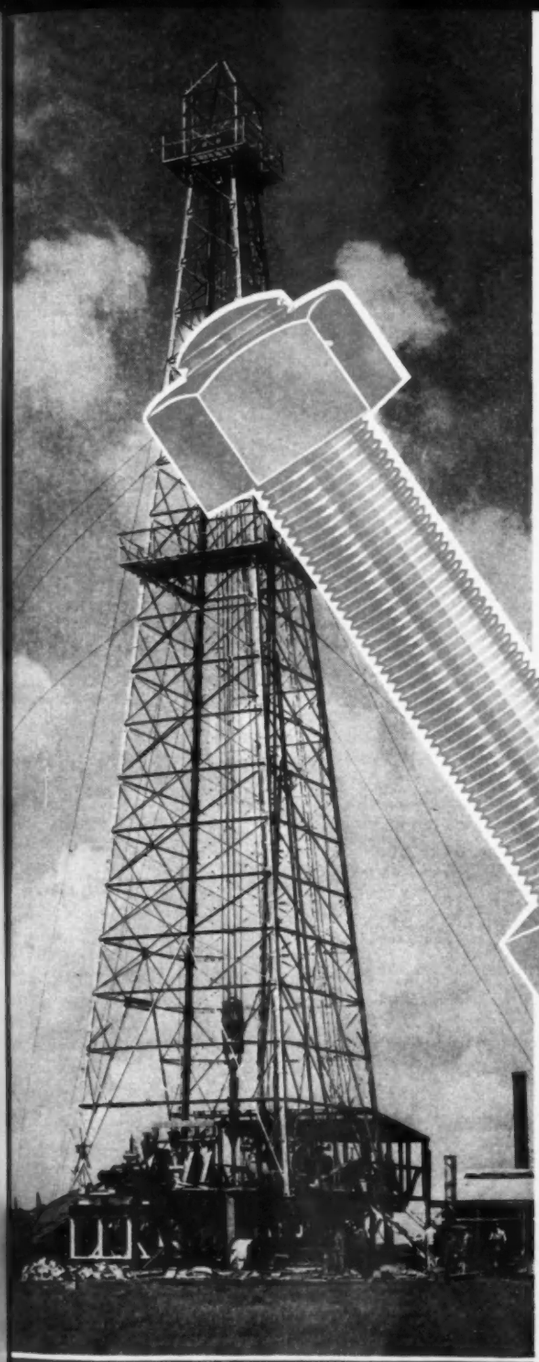

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ASCENSION PARISH

BRIGNAC*

Sections 13, 14, 15-9s-3e, 32-8s-3e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1933 and 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble, Tide Water Associated Oil Co., Sun Oil Co. **Remarks:** Known also as Du Plessis.

DARROW

Sections 29, 30, 31, 32, 33, 34, 36-10s-2e. **Means of Discovery:** Torsion balance, Gulf Oil Corp., 1937. **Discovery Well:** Rio Bravo Oil Co.'s Community 1, Sec 31, 100 bbls, 28-gr oil per hour, ½-in ch, from 4008-4035 ft, depth 4035 ft, flowed 2400 bbls. Sept., 1932. **Structure:** Dome, salt 4900 ft. **Producing Formations:** Miocene 4008-35 ft, 4776-4827 ft and 5513 to 5900 ft; Oligocene 6900 to 7071 ft, 8259-61 ft. **Average Sand Thickness:** 36 ft. **Productive Acres:** 210; 140 developed. **Daily Production, July 1, 1940:** 2015 bbls from 15 wells. **Estimated Ultimate Recovery:** 11,885,000 bbls. **Production Through June, 1940:** 3,973,526 bbls. **Indicated Remaining Reserve:** 7,911,474 bbls. **Deepest Hole:** Humble Oil & Refining Co.'s Gumble 16, dr 8445 ft, pb comp 8259-61 ft, Oct., 1939, discovered new sand, extending field ½ mi s. **Oil Outlet:** Barge, Mississippi river. **Range of Gravity:** 4008 to 4035 ft, 28 degrees; 5500 to 5900 ft, 31 to 41 degrees; 6985 to 6995 ft, 39 degrees; 8259 ft, 29.5 degrees. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Humble Oil & Refining Co., Gulf Oil Corp., Turnbull & Irwin in river on w edge of dome. **Remarks:** The discovery well had six sands showing oil before encountering sand in which it was completed. Humble's Gumble 2, sw flank test, extended production one mi and found a new producing horizon, Jan., 1935. Humble took dome from Turnbull & Irwin in 1935. **Heaving Shale:** Is found around 7800 ft.

PRAIRIEVILLE*

North of Prairieville, Sec 38-8s-2e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1937. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, Tide Water Associated Oil Co., Stanolind Oil & Gas Co., W. P. Weber. **Remarks:** Sometimes called Bayou Manchac, not to be confused with different prospect of same name in East Baton Rouge Parish. See Slaughter.

SORRENTO

Sections 14, 15, 22, 23-10s-4e. **Means of Discovery:** Gas seepages, refraction seismograph, Gulf Oil Corp., 1926. **Discovery Well:** Gulf's United Lands Co. 4, Sec 15, Feb. 1, 1928, 1000 bbls 26.4-gr oil daily from cap rock at 1657 ft. **Structure:** Dome, cap rock 1568 ft, salt 1920 ft. **Producing Formations:** Cap 876-901 ft, 1250 ft, 1312-33 ft, 1615-1650 ft; Middle Oligocene 4301 to 4332 ft, 4408 to 4430 ft. **Average Sand Thickness:** 40 ft. **Productive Acres:** 100; 75 developed. **Daily Production, July 1, 1940:** 200 bbls from 6 wells. **Estimated Ultimate Recovery:** 2,500,000 bbls. **Production Through June, 1940:** 1,129,000 bbls. **Indicated Remaining Reserve:** 1,371,000 bbls. **Deepest Hole:** Sorrento Oil Co.'s Bernard 1, Sec 27-10s-4e, dr to 8004 ft, abnd Jan., 1940. **Casing Programs:** Pan-American Production Co., 16-in, 92 ft; 10¾-in, 1700 ft, 4291 ft. **Oil Outlet:** Tank cars. **Range of Gravity:** 23.5-32. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Pan-American Production Co., Sorrento Syndicate. **Remarks:** First dome to produce oil east of the Mississippi river.

ASSUMPTION PARISH

AMELIA*

Section 66-16s-14e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1937-1939. **Extent of Development:** Shell's Ells 1, Sec 66-14s-14e, 7007 sd, no show, abnd 11,610 ft, July, 1939; Ells 1, Sec 69-16s-14e, dry at 11,561 ft, Jan., 1940; Community 1, Sec 66-16s-14e, abnd at 11,278 ft, June, 1940; Patreaux 1, Sec 66-16s-14e, abnd near 10,000 ft, May, 1940. **Principal Leaseholders:** Shell, Sun Oil Co.

BAYOU GOULA*

Section 35, 64-10s-13e, 103-10s-12e. **Means of Discovery:** Old refraction prospect discovered by Gulf Oil Corp., Trinity Petroleum Co., gravimeter, 1939. **Extent of Development:** Undrilled.

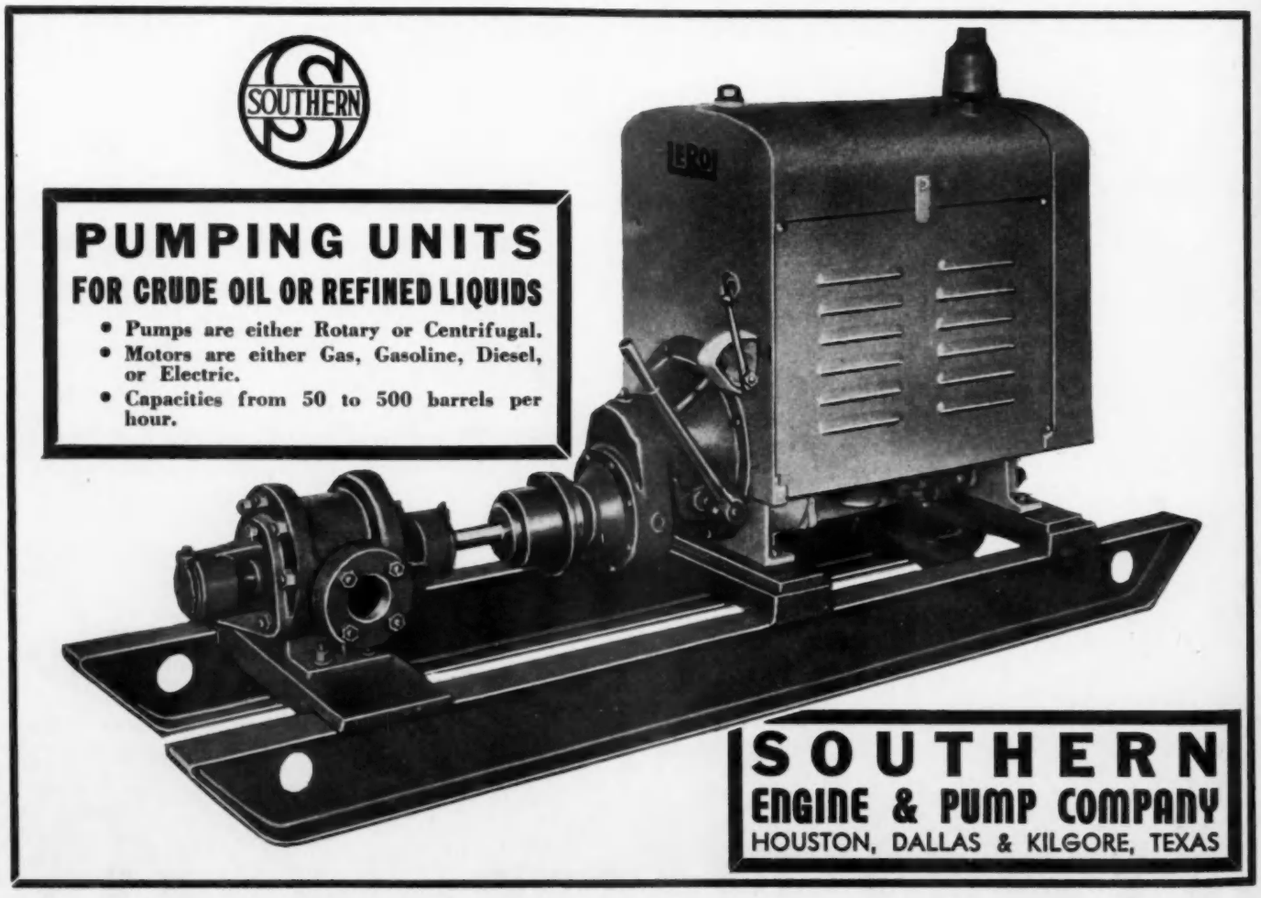
GRASSEY LAKE*

Ne Morgan City, Section 13-15s-13e. **Means of Discovery:** Torsion balance, reflection seismograph, Shell Oil Co., 1935. **Extent of Development:** Undrilled.

LABADIEVILLE*

6 mi nw Labadieville, Sections 33, 34, 36, 38-14s-15e, 15-14s-14e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1928 and 1934, Humble Oil & Refining Co., 1936. **Extent of Development:** Barnsdall Oil Co.'s Williams Cypress Co. 1, 38-14s-14e, abnd 8154 ft, 1933. Humble's Milliken & Farwell 1, 15-14s-14e, dry at 11,920 ft, March, 1939. **Principal Leaseholder:** Humble. Dropped several leases in this area in 1939 and took additional leases in Sec 66-14s-15e.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.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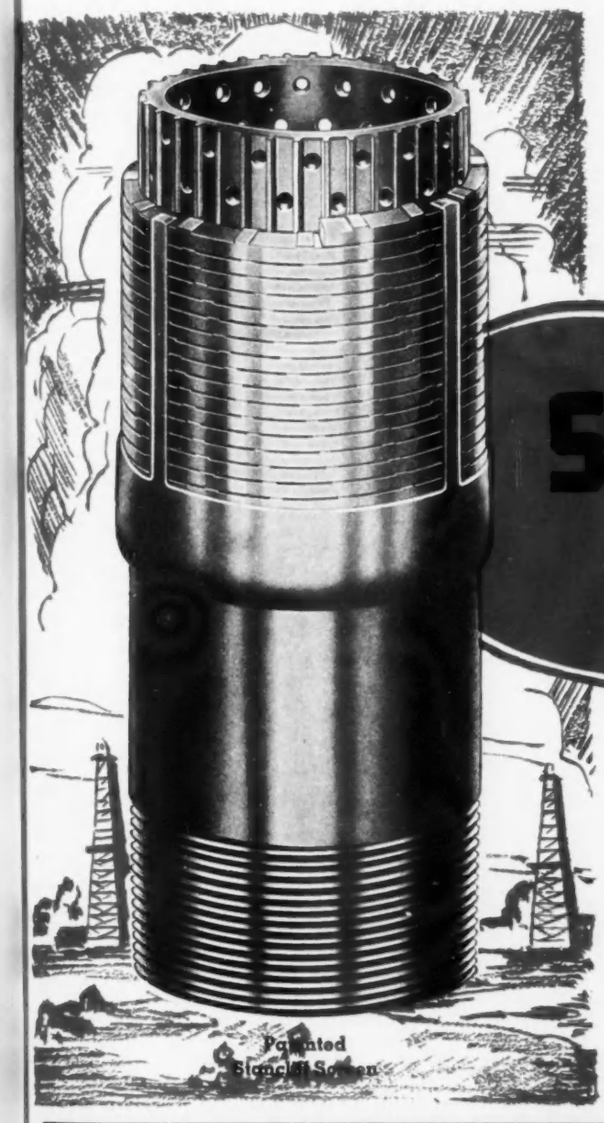

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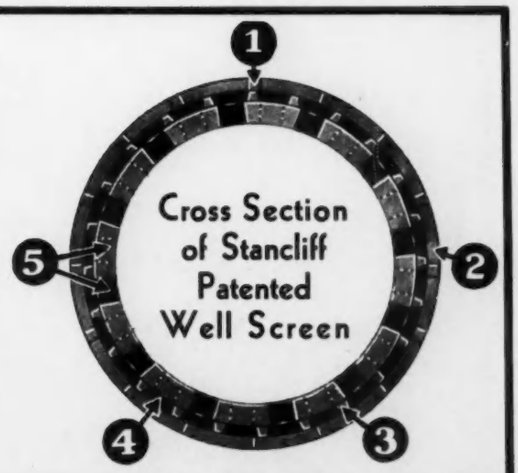

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LAKE VERRET*

Centering around Lake Verret in Secs 28, 33-13s-13e and 13s-12e. **Means of Discovery:** Reflection seismograph and torsion balance, Tide Water Associated Oil Co., 1936; Shell Oil Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Tide Water, Shell.

NAPOLEONVILLE†

Sections 41, 42, 43, 45, 46-12s-13e. **Means of Discovery:** Gas seepage, seismograph, Gulf Oil Corp., 1926. **Structure:** Dome; cap rock 413 ft, salt 685 ft. **Extent of Development:** 16 dry holes, 1926-31 (including 10 sulphur tests). **Deepest Hole:** Gulf's Armalise Planting Co. 1, abnd 6037 ft. **Principal Leaseholders:** Humble, Geo. Helis, Tide Water Associated Oil Co., Superior Oil Corp., Fohs Oil Co., Shell. **Remarks:** Sulphur tests by Union, Texas Gulf Sulphur Co. Flank is leased for oil development.

AVOYELLES PARISH

BORDELONVILLE*

Centering around Sections 23, 26-2n-5e. **Means of Discovery:** R. S. Adams Oil & Gas Co. **Extent of Development:** Joe F. Belt's Thompson-Kotz Lbr. Co. 1, 23-2n-5e, dry 6552 ft, Jan., 1940. **Principal Leaseholders:** J. E. Belt, T.S.A., Gulf Oil Corp. **Remarks:** Adams turned down shooting option after geophysical work. Belt reported drilling obligation to 8200 ft, and selling spreads.

EOLA

Centering sections 7-2s-3e; 1-2s-3e, 5, 6, 8-2s-3e. **Means of Discovery:** Reflection seismograph and torsion balance, Amerada Petroleum Corp., 1934-36. Sid Richardson, reflection seismograph, 1938. **Discovery Well:** Sid Richardson's Haas Investment Co. 1, Jan. 18, 1939, Wilcox 8432 to 8556 ft, 160 bbls daily, ½-in ch, 44.5-gr. **Producing Formations:** Wilcox 8336 to 8556 ft, Cockfield 6430-46 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 2000; 1000 developed. **Daily Production, July 1, 1940:** 10,223 bbls from 87 wells. **Estimated Ultimate Recovery:** 75,000,000 bbls. **Production Through July 1, 1940:** 2,831,541 bbls. **Indicated Remaining Reserve:** 72,168,459 bbls. **Deepest Hole:** Sid Richardson's Haas 1-B, mi n outpost, abnd 9400 ft, June, 1940. **Oil Outlets:** Continental Pipe Line Co. 6-in to Ville Platte. **Range of Gravity:** 8336 to 8556 ft, 42. **Rigs Running, July 1, 1940:** 7. **Principal Leaseholders:** Amerada, Sid Richardson, Tide Water Associated Oil Co., Geo. Lilley, Gulf Refining Co., Pomo Prod. Co., Sun Oil Co. **Remarks:** First field in South Louisiana to produce from Wilcox. Casing perforated with 672 shots 8442-8550 ft. Discovery cored oil sands in Cockfield and Sparta, which probably would have made oil well. Sid Richardson's Glaze 9, opened Cockfield in June, 1940, flowing 230 bbls daily from 6430-46 ft through 3/16-in choke.

EVERGREEN*

Centering Sec 7-2s-4e. **Means of Discovery:** Reflection seismograph and torsion balance, Magnolia Petroleum Co., 1937-39. Reflection seismograph, 1939. **Extent of Development:** Magnolia's Bowden 1, high well, logged slight show around 7593 ft in Sparta, dr to 9014 ft, top Wilcox 8648 ft, abnd, Nov., 1938. **Principal Leaseholder:** Magnolia, dropped certain leases after rechecking with seismograph, 1939.

HAMBORG*

Centering Sec 29-1n-6e. **Means of Discovery:** Geophysics, Magnolia Petroleum Co. **Extent of Development:** Undrilled. **Principal Leaseholder:** Magnolia.

LATANIER*

Centering Secs 28, 31, 32, 33-3n-5e. **Means of Discovery:** Geophysics. **Extent of Development:** Cater Rubsamen's Boyeet 1, 28-3n-52. Slight show gas 5221-31 ft, Wilcox 5221 ft, sw sds 5465-5550 ft, abnd Sept., 1939. **Principal Leaseholders:** Humble Oil & Refining Co., Magnolia Petroleum Corp., Rubsamen.

MARKSVILLE—Egg Bend*

Centering 21, 8-2n-4e, 25-2n-3e. **Means of Discovery:** Geophysics, Coastal Minerals Development Co., 1936. Sinclair Prairie Oil Co., torsion balance and reflection seismograph, 1937. **Extent of Development:** Coastal Minerals Development Co.'s Hess 1, showed resistivity and porosity at 5778-80 ft, abnd 6054 ft, Aug., 1937. G. C. Koch's Kelone 1, 21-2n-3e, top Sparta 4790 ft, slight show oil 5211-46 ft, sw sands 5246-64 ft, abnd 6021 ft, April, 1938. Nw of Marksville Adams Oil & Gas Co.'s Poor Farms 1, Sec 8-2n-4e. Faint show oil 5632-35 ft, abnd 6600 ft, July, 1939. **Principal Leaseholders:** Coastal Minerals, Sinclair Prairie, Gulf Oil Corp., Sun Oil Co., G. C. Koch, Adams Oil & Gas Co., Tide Water Associated Oil Co., Pan-American Production Co., Lisbon Iberia Oil Co., Texas Co., Louisiana Land & Exploration Co.

RUBY-CENTERPOINT*

Centering Sec 24-3n-2e. **Means of Discovery:** Geophysics, Perry Scranton, 1938. **Extent of Development:** C. B. Bunte, Hines Tie & Lbr. Co. 1, Cockfield 3374 ft, Wilcox 5173 ft, abnd 5695 ft, Sept., 1939. **Principal Leaseholder:** Perry Scranton.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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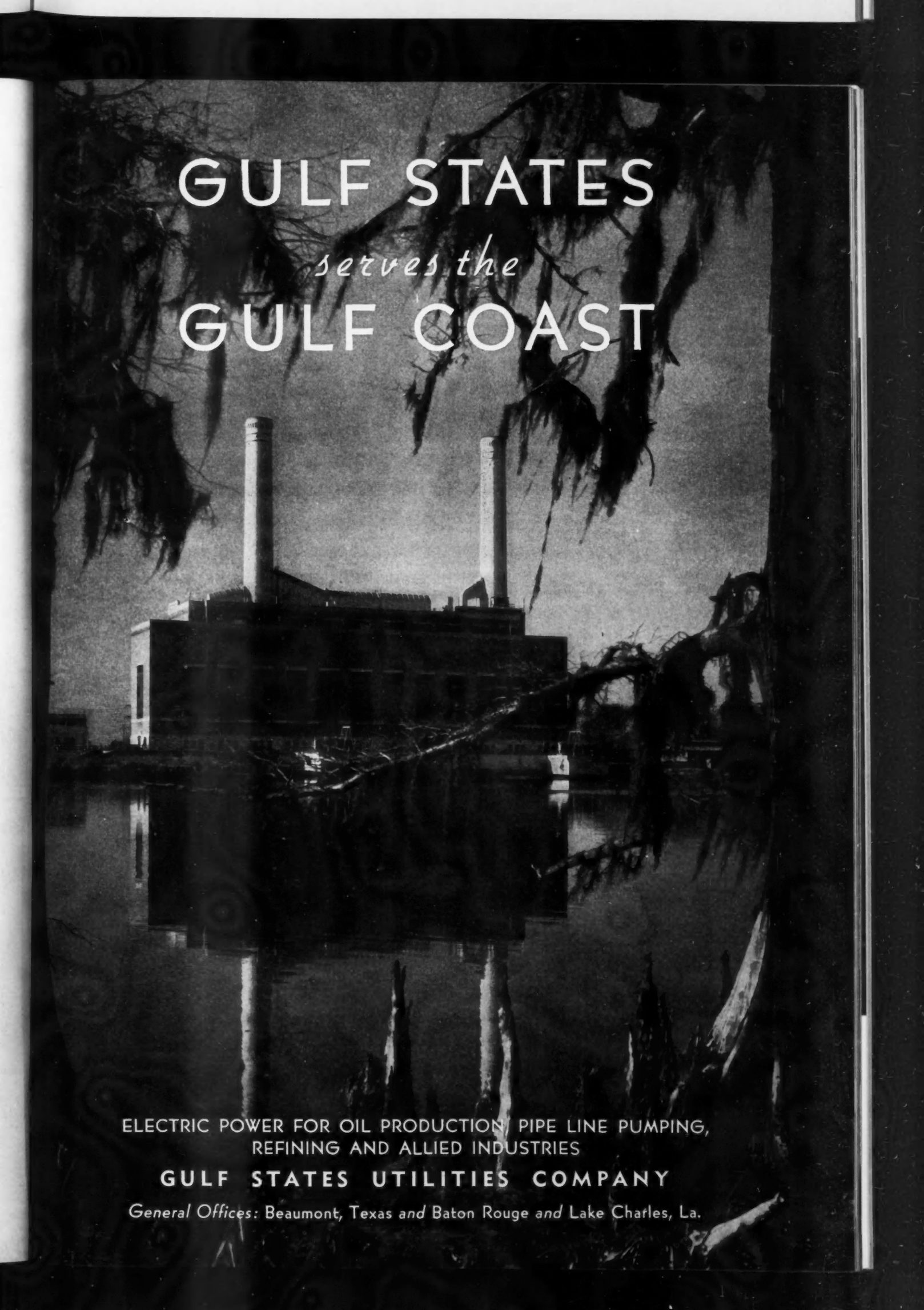
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BEAUREGARD PARISH

BANCROFT

North of Bancroft, centering Sections 10, 14, 15, 15-6s-13w. **Discovery Means:** Geophysics, Republic Production Co., 1935. Gulf Refining Co. did considerable pendulum work in this area in 1934. **Discovery Well:** Republic's Lutcher-Moore 1, May 4, 1938, 50 bbls distillate, 3,000,000 cu ft gas, 7575-7580 ft. **First Oil Well:** Republic's Columbia Land & Lbr. Co. 1, 16-6s-13w, 504 bbls 41-gr oil daily from 7321-26 ft, Aug. 30, 1938. **Structure:** Dome. **Producing Formations:** Cockfield and Sparta sds 7575-80 ft, 7320-30 ft. **Average Sand Thickness:** 5 ft. **Productive Acres:** 1500; 600 developed. **Estimated Ultimate Recovery:** 20,000,000 bbls. **Daily Production, July 1, 1940:** 3520 bbls from 20 wells. **Cumulative Production Through June, 1940:** 1,716,102 bbls. **Estimated Remaining Reserve:** 18,283,898 bbls. **Deepest Hole:** Republic's Lutcher-Moore Lbr Co. 1, 15-6s-13w, dr 10,018 ft, sw at 10,385 ft, 10,309 ft, 10,290 ft, 8400 ft, abnd Oct., 1939; 8400 ft sd showed little oil. **Gravity:** 7575-79 ft, 62; 7321-26 ft, 42; 7272-88 ft, 32 degrees. **Oil Outlet:** Republic 6-in to Texas Co. line at Bunker Hill. **Rigs Running, July 1, 1938:** One location made. **Principal Leaseholders:** Republic, Geo. Lilley. **Remarks:** First Cockfield prod in coastal La. First field in Beauregard Parish.

BANNISTER*

Section 23-4s-9w. **Means of Discovery:** Reflection seismograph, California Co., 1938-39. **Extent of Development:** California Co.'s Long Bell 1, 23-4s-9w, dr to 10,692 ft, abnd Aug., 1939. **Principal Leaseholder:** California Co.

DE QUINCY*

Sections 1, 22, 23, 26, 27-7s-12w; 26-6s-13w. **Means of Discovery:** Torsion balance, reflection seismograph, Federal Petroleum Co., 1934. **Extent of Development:** Federal's Lutcher-Moore B-1, 26-6s-13w, show of oil 7878-7913 and 8395 ft, quit in Cockfield, 8415 ft; Lutcher-Moore 1, 4-7s-12w, quit at 8722 ft, Aug., 1934. Gulf Oil Corp.'s Lutcher-Moore 1-A, 25-6s-12w, oil show in Cockfield, 7961 ft, abnd 8354 ft, Dec., 1934. Republic Production Co.'s Lutcher-Moore 1, 14-7s-12w, cored salt water sands at 8950 to 8980 ft, abnd Nov., 1938; Lutcher-Moore 2, 1-7s-12w, abnd 9150 ft, Nov., 1939. **Principal Leaseholders:** Gulf, Federal, Magnolia Petroleum Co. **Remarks:** Also referred to as Mystic Area.

DE RIDDER*

Section 1-3s-9w. **Means of Discovery:** Reflection seismograph, Superior Oil Co., 1939. Showed some irregularities. **Extent of Development:** Danciger Oil & Refining Co., Le Ray 1, abnd 8232 ft, June, 1940. **Principal Leaseholders:** Superior, Magnolia Petroleum Co., Skelly Oil Co., Cities Service Oil Co.

DRY CREEK*

Section 11-5s-7w. **Means of Discovery:** Surface geology; torsion balance and reflection seismograph, 1931. **Extent of Development:** Humble Oil & Refining Co.'s Long Bell 1, reported oil show in Cockfield, 8350 ft, abnd 9302 ft, May, 1934. **Remarks:** Leased originally by Adams Louisiana Co. After Humble drilled the deep dry hole, Continental Oil Co. worked the area with reflection seismograph but failed to locate structure. Five mi ne above test, O'Brien Bros.' Long Bell 1, 34-14s-6w, Allen Parish abnd 6248 ft, May, 1933. **Principal Leaseholder:** Gulf.

LONGVILLE*

Section 8-5s-9w. **Means of Discovery:** Reflection seismograph, California Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholder:** California Co.

NEALE

Sections 22, 24, 25, 26-3s-11w. **Means of Discovery:** Reflection seismograph, Atlantic Refining Co., 1938-39. **Discovery Well:** Atlantic's Whitmer 1, 26-3s-11w, 521 bbls 35.5-gr oil daily, 3/16-in choke from 8356-70 ft, tbg/csg pressure 825/875 pounds. **Producing Formation:** Wilcox at 8356-86 ft. **Type Structure:** May be dome, but has attitude of stratigraphic trap, with great extent, and only known dip to west, about 20 ft to the ⅛ mi. **Productive Acres:** 1000; 250 developed. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Daily Production, July 1, 1940:** 500 bbls from 2 wells. **Cumulative Production, July 1, 1940:** 15,250 bbls. **Estimated Reserve:** 9,984,750 bbls. **Gravity:** 35.5 degrees. **Deepest Hole:** Discovery well, dr past 8615 ft. **Principal Leaseholders:** Atlantic Refining Co., Magnolia Petroleum Co., Tide Water Associated Oil Co., Martex Oil Co. **Remarks:** Best among 1940 discoveries, receiving major extensions all topping pay at comparable depths. Atlantics' Kay Unit 1, dr ½ mi west of discovery topped pay 20 ft lower than most of six other wells. Sept. 10, 1940, Atlantic was attempting 1½ mi west extension with Rice Land & Lumber Co. C-1, while Martex Oil Co. was drilling Musser-Davis 1, 1 mi east of production.

SINGER*

Sections 12, 21-5s-10w, 13-5s-11w. **Means of Discovery:** Reflection seismograph, The California Co., 1938-39. **Extent of Development:** California Co.'s Long Bell 2, 21-5s-10w, dry at 10,711 ft, Dec., 1939, Atlantic Refining Co.'s Lutcher Moore 1, 13-5s-12w, abnd 3190 ft. **Remarks:** Also referred to as Hickory Branch.

WEST JUANITA AREA*

S Weale field, Sec. 13-5s-12w. **Means of Discovery:** Reflection seismograph, Atlantic Refining Co., 1939. **Extent of Development:** Atlantic's Lutcher Moore 1, 13-5s-17w, abnd 8980 ft, Loffland Bros.' Long Bell 1, 24-5s-11w, abnd 10,224, May, 1940. **Principal Leaseholders:** Atlantic Refining Co., Cities Service Oil Co., Gulf Oil Corp. **Remarks:** See Merryville.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

CALCASIEU PARISH

BIG WOODS*

3 mi sw Lucas, centering Sections 22, 27, 36-8s-12w. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934, Sun Oil Co., 1937, Union Sulphur Co., 1939. **Extent of Development:** Humble's Industrial 1-B, 27-8s-12w, quit at 9532 ft, January, 1935. **Principal Leaseholder:** Union Sulphur Co. **Remarks:** Sometimes known as DeQuincy, the two areas being closely associated. Humble dropped leases; Continental Oil Co. and Sun shot area with reflection seismograph in 1937 and released. Union Sulphur dropped 4500 acres after shooting with reflection seismograph.

BUHLER*

Southwest of Edgewood, centering Section 30-8s-9w, 26-8s-10w. **Means of Discovery:** M. Harris, reflection seismograph, 1939. **Extent of Development:** Fred Oil Co.'s Faist 1, abnd 4580 ft., Nov., 1936. General Crude Purchasing Co.'s Buhler 1, top Frio 6460 ft, abnd 8481 ft in heaving shale, Oct., 1936. **Heaving Shale:** Penetrated under Buhler tract.

CHOUPIQUE*

Centering Sec 16-11s-10w. **Means of Discovery:** Gulf Oil Corp., 1939. **Extent of Development:** Gulf's Brannon 1, dry 9704 ft, Nov., 1939. Had show oil up hole. S. P. Benckenstein has taken a block of 3400 acres in 6, 7, 8-11s-10w, 1-7s, 13-11s-11w, will do geophysical work. Hamman Exploration and Albert Fay drilled Sabine Rice Lands 1, 16-11s-10w, to 9200 ft, abnd. **Principal Leaseholders:** Gulf, W. T. Burton.

EAST LAKE CHARLES*

Centering Sections 16, 28-9s-7w. **Means of Discovery:** Geophysics, Shell Oil Co., 1934; Wheeler Oil Co. **Extent of Development:** Wheeler's Gabbert 1, 28-9s-7w, quit 8969 ft, April, 1935; School Land 1, 16-9s-7w, dry 7160 ft, June, 1936. J. Elmer Thomas' Farmer Land Co, 1, 20-10s-7w, slight show oil 3677-88 ft and 3780 ft, attempted dst but failed, abnd 3911 ft, Oct., 1936. David B. MacDaniel's School Land 1, slight show 4100 ft, abnd sw 7871 ft, May, 1939. E. W. K. Andrau's Blackman 1, 20-9s-6w, dry 8027 ft, Feb., 1940. **Principal Leaseholders:** L. A. Wheeler, Shell.

EAST ORANGE*

Section 21-11s-12w. **Means of Discovery:** Torsion balance, pendulum, Gulf Refining Co., 1934. Reflection seismograph and torsion balance, Humble Oil & Refining Co., 1937. **Extent of Development:** Gulf's Stark 1, dry 8566 ft, March 1935. **Principal Leaseholders:** Gulf, Noble-Abercrombie, Humble.

EDGERLEY

Sections 20, 21, 27, 28, 29-9s-11w. **Means of Discovery:** Gas escapes; paraffin dirt. **Discovery Well:** Bright Oil Co.'s Bright 1, 1912, 250 bbls, 17.5-gr, 1500 ft. **Structure:** Dome, top cap rock 3958 ft, salt 3991 ft. **Producing Formation:** Pliocene-Miocene sands at 2500 to 4200 ft. **Average Sand Thickness:** 125 ft. **Productive Acres:** 215. **Daily Production, July 1, 1940:** 300 bbls from 15 wells. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through June, 1940:** 8,659,000 bbls. **Indicated Remaining Reserve:** 1,341,000 bbls. **Deepest Hole:** Yount-Lee Oil Co.'s Sulphur Mining Co. 1, Section 33, se edge of field, quit in shale 8414 ft, Feb., 1934, after having tried to blow out at 7900 ft. **Oil Outlet:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 17-35.7. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Gulf Ref. Co., Emerson Oil Co., Michla Oil Co. **Heaving Shale:** Found below 6200 ft.

ENGLISH BAYOU

1 mi s Gillis field, 6 mi ne Lake Charles, Sections 13, 14-9s-8w. **Means of Discovery:** Vacuum Oil Co., torsion balance, June, 1933, and later worked by Fohs Oil Co., Independent Exploration Co. did a reconnaissance picture for H. C. Cockburn. Geophysical Service Co., reflection seismograph, worked out several faults in the field. **Discovery Well:** Fohs Oil Co.'s Castle 1, 7067 ft, oil sand, top 7042 ft, 1400 bbls daily, Feb. 8, 1935. **Structure:** Fault on a large salt ridge. **Producing Formations:** Marginulina sands of the Middle Oligocene, 7021-7102 ft, gas sand 6939 ft, 6976 ft, 7024 ft, 7371-76 ft. On n side of fault, Union Sulphur Co.'s Castle 3 had sands 5156-80 ft. Castle 5 had gas sand 6043-46 ft; Castle 7, 7074-85 ft. Small amount of production found in Graben between Gillis and English Bayou. **Average Sand Thickness:** 20 ft. **Productive Acres:** Included with Gillis. **Daily Production, July 1, 1940:** Included with Gillis. **Estimated Ultimate Recovery:** Included with Gillis. **Deepest Hole:** Fohs Oil Co.'s Airhart 1, dr to 9246 ft, October, 1935, tried to blow out, had sand 9242-9246 ft, in Vicksburg, pb and comp for prod at 7060 ft. **Oil Outlet:** Fohs Oil Co. 6-in line to barge, Calcasieu river. **Range of Gravity:** 5150-60 ft, 30 degrees; 7030-66, 41 and 42 degrees. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Union Sulphur Co., Fohs Oil Co., L. & T. **Remarks:** English Bayou is part of a large salt ridge which includes Gillis, Welch, Roanoke and possibly Lockport fields. Fohs Oil Co., by means of geophysical work and by drilling, developed a major fault on the south half of the salt ridge and also radial faults in several tracts. (See Gillis).

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GILLIS

Ne of Lake Charles, centering around Sections 1, 11, 12, 14-9s-8w. **Means of Discovery:** Gas seepages; Union Sulphur Co., refraction, 1928 and then rechecked with reflection seismograph. Shell Oil Co., torsion balance, 1930. Gulf Refining Co., torsion balance, 1931. **Discovery Well:** Union Sulphur Co.'s Barbee Estate 2, came in flowing by heads small stream wash water with trace oil, Oct., 1934, closed-in pressure 200 pounds; October 15, 1934, it flowed rate of 240 bbls, 35 percent salt water from 6760 ft. **Structure:** Deep seated salt dome. **Producing Formations:** Marginulina sands of Oligocene series at 6396 to 6413 ft, 6660 to 6787 ft; 7144 to 7149 ft; 7500 ft; 9101 ft gas sand. Graben oil is at 5234-67; 5421-31 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 1075; 870 developed. (Includes English Bayou). **Daily Production, July 1, 1940:** 4771 bbls from 48 wells. (Includes English Bayou). **Estimated Ultimate Recovery:** 24,000,000 bbls. (Includes English Bayou). **Production Through June, 1940:** 19,443,986 bbls. **Indicated Remaining Reserve:** 4,556,014 bbls. **Deepest Hole:** Union Sulphur Co.'s Barbee Estate 12, blew out at 9101 ft, March, 1937. **Oil Outlets:** Union Sulphur Co.'s 6-in line to Rose Bluff. Barge. **Range of Gravity:** 6600-6750, 34 to 36; 5250-5270, 30. **Rigs Running, July 1, 1940:** One. **Principal Leaseholders:** Union Sulphur, Texas Co.. **Remarks:** A large Graben exists between English Bayou and Gillis field. Union Sulphur has repressuring plant which takes gas at 950 pounds and raises to 2460 pounds, injected at 6739-45 ft. Company disposes of salt water by pumping into a 1500-foot well. One well to each 10 acres. Continental Oil Co. has a gasoline plant in field.

IOWA

16 mi e of Lake Charles, Sections 7, 8, 18-9s-6w, 12, 13-9s-7w. **Means of Discovery:** Gas seepage; seismograph, Shell Oil Co., 1929. Vacuum Oil Co., torsion balance. **Discovery Well and Date:** Vacuum Oil Co.'s Bert T. Wait 1, Section 12, Jan., 1931, 300 bbls, 29-gr oil, 5008 ft; deepened and completed October 19, 1931, 1500 bbls 40-gr oil daily, ⅝-in choke sand at 6958-6971 ft. **Structure:** Regarded as deep dome, although no dome material encountered. **Producing Formations:** Miocene sands at 4397, 4470, 4862, 5008, 5203-26 ft, 5539, 5760-75 ft, 5917 ft; Marginulina zone of Oligocene at 6538-73 ft, 6636 to 7027 ft, 8204-12 ft. **Average Sand Thickness:** 55 ft. **Productive Acres:** 1000; 950 developed. **Daily Production, July 1, 1940:** 8800 bbls from 49 wells. **Estimated Ultimate Recovery:** 60,000,000 bbls. **Production Through June, 1940:** 41,496,000 bbls. **Indicated Remaining Reserve:** 18,504,000 bbls. **Deepest Hole:** Shell Oil Co.'s Hyde 19, dr to 9161 ft, sand showing oil 7245 ft and 8656 ft, pb April, 1936, comp as producer 5203-26 ft. **Oil Outlet:** Shell Pipe Line Co., 8-in to Calcasieu river. **Range of Gravity:** 4406 ft 24; 4500 ft, 26; 5000 ft, 29; 5200 ft, 32; 6550 ft, 42; 6950 ft, 40. **Rigs Running, July 1, 1940:** One. **Principal Leaseholders:** Shell, Magnolia, Barnsdall Oil Co. **Remarks:** Shell has a gasoline plant in the field. Dry gas is taken by United Gas Co. One well drilled to every 10 or 12 acres. Iowa is considered a model field and all producing wells are flowing due to careful handling of pressure and gas/oil ratios. Proration is taken by 25 percent of potential production taken on 24-hour test through 23/64-in choke. Magnolia deepened Wait 9, Sec 12-9s-7w, old producer in center field, disc new sd, 8204-14 ft, flowing 1560 bbls 34-gr oil daily, ½-in choke, from Oligocene.

LOCKPORT

Sections 8, 9-10s-9w. **Means of Discovery:** Gas escapes. **Discovery Well and Date:** Vacuum Oil Co.'s Miller 1, Sept., 1924, 3000 bbls 24.5-gr oil daily, 3876 ft. **Structure:** No cap rock or salt encountered, but structure regarded as deep dome. **Producing Formation:** Miocene and Middle Oligocene at 2200 to 2400; 2900 to 3400; 3855; 4350 to 5000 ft; 5000 to 5667 ft; 6461 to 6718 ft; 6917-30 ft. **Average Sand Thickness:** 100 ft. **Productive Acres:** 300. **Daily Production, July 1, 1940:** 1065 bbls from 24 wells. **Estimated Ultimate Recovery:** 20,000,000 bbls. **Production Through June, 1940:** 15,378,000 bbls. **Indicated Remaining Reserve:** 4,622,000 bbls. **Deepest Hole:** Magnolia Petroleum Co.'s Miller 23, Sec 9-10s-9w, dr to 8002 ft, pb and comp 4358 ft, Sept., 1938. **Casing Program:** Magnolia, 18⅝-in, 88 ft; 10¾-in, 1200 ft; 7-in, 4965 to 6900 ft. **Oil Outlet:** Barge. **Range of Gravity:** 2200 ft, 3850 ft, 4300 ft, 4700 ft, 24; 4900 ft, 36; 6606 ft, 6900 ft, 42. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Magnolia and Gulf Oil Corp. (jointly), Stanolind Oil & Gas Co., Union Sulphur Co. **Remarks:** Superior Oil Co. worked with reflection seismograph on s flank in 1939. **Heaving Shale:** Encountered around 7200 ft.

NIBLETTS BLUFF*

N of Toomey and ne of Vinton, centering Section 13-10s-12w. **Means of Discovery:** Surface indications, showings reported in shallow test, geophysical work by A. G. Oliphant. **Extent of Development:** Plummer & McDaniels Couburn-Hood 1, 13-10s-12w, qu't in water sand 7378 ft, Jan., 1935. A. G. Oliphant's Calcasieu National Bank 1, 23-10s-12w, slight show oil 6378-81 ft, quit in Frio at 7508 ft, March, 1936, top Frio 7016 ft. **Principal Leaseholders:** Plummer & McDaniels, Steinberger Petroleum Co. Operators are reported to have surrendered leases in this area.

NORTHWEST STARKS (Lunita)*

Nw of Starks, centering around 1 and 12-8s-13w. **Means of Discovery:** Surface indications, showing reported in shallow wells, supposed to be torsion balance and magnetometer high in area. reflection seismograph, also D&D Oil Co. & Sun Oil Co., McCollum & Davenport, 1935 and 1936. **Extent of Development:** McCaleb's Grey 1, dry at 1555 ft, Aug., 1934, D&D Oil Co.'s Lutcher-Moore 1, 1-8s-13w, topped Vicksburg 6727 ft, tried to blow out 8398 ft, sand showing oil 8398 to 8415 ft, bridged, abnd 8557 ft, May, 1937. Same operator's Lutcher-Moore 2, 1-8s-13w, drill-stem test 6945 ft, gas-cut mud; 9⅝-in. 8262 ft; sdtr 8228 ft; 7-in on to 9⅝-in. 8597 ft; top Cockfield 8300 ft; dr to 9674 ft, perforated 8550-60 ft, showed gas and sw; perforated 8396-8418 ft, showed gas and sw; perforated 7160 to 7205 ft, 6925-43 ft, and 6975 to 7030 ft, recovered gas, mud and sw, abnd Jan., 1938. Sun Oil Co.'s Lutcher-Moore 1, 1-8s-13w, gas odors 6312 ft, 7336 ft, 7469 ft, sw sands 9480 ft, abnd June, 1938. Same operator's Lutcher-Moore 2, 12-8s-13w, abnd 8951 ft, shale, Nov., 1938. **Principal Leaseholders:** D&D Oil Co. (Bill Minchen and Lee Harmer), Sun Oil Co., Federal Petroleum Co., The Texas Co. **Remarks:** D&D Oil Company leased Lutcher-Moore acreage in three blocks in Calcasieu and Beauregard Parishes. Block 2 is in 15-6s-13w and Block 3 is around Section 34-5s-13w. Sometimes referred to as Lunita.

PERKINS‡

N of Edgewood centering around Sec 32-7s-10w. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1938-39. **Discovery Well:** Humble's Edgewood Land & Logging Co, 1, August 2, 1939 908,000 ft gas daily with small amount distillate; 3/16-in ch, tbg pressure 2600 pounds, Oligocene sands 7038-42 ft. **Type Structure:** Dome. **Producing Formations:** Oligocene-Frio sds 7038-42 ft. **Producing Acreage:** 40 acres (gas). **Estimated Ultimate Recovery:** gas. **Deepest Hole:** Humble's Edgewood 2, dry at at 9450 ft, topped Frio 5471 ft, Vicksburg 7481 ft, Cockfield 9157 ft, 100 ft lower than discovery. **Range of Gravity:** 7038-42 ft, gas. **Principal Leaseholder:** Humble.

SABINE TRAM* (Block 3)

Adjoining Sabine river around Section 25-8s-14w. **Means of Discovery:** Reflection seismograph, Republic Production Co., 1936, 1937. **Extent of Development:** Republic's Sabine Tram 1, tried to blow out 9620 ft, drill pipe stuck 9620 ft, abnd Jan., 1938, worked over at 9540 ft, tried to blow out, abnd Aug., 1938. **Principal Leaseholder:** Republic. **Remarks:** See Sabine Blocks in Texas Gulf Coast. **Heaving Shale:** Found in Sabine Tram 1, around 9600 ft.

SOUTH EDGERLEY*

S of Edgerley, Secs 4, 17-10s-11w. **Means of Discovery:** Reflection seismograph Union Sulphur Co., 1938. **Extent of Development:** Union Sulphur's Drew Manual Training 1, Sec 4-10s-11w, abnd 8807 ft, Aug., 1938; Manual Training School 2, Sec 4-10s-11w, abnd 8482 ft, June, 1939. **Principal Leaseholder:** Union Sulphur Co.

SOUTH LAKE CHARLES*

Centering around T10 and 11s, R8 and 9w. **Means of Discovery:** Shell Oil Co., worked acreage centering around 9-11s-8w, with reflection seismograph and torsion balance, 1935. Centering around Section 1-11s-9w, Union Sulphur Co. worked with reflection seismograph and torsion balance in 1935 and retained a large block. Centering around Section 10-11s-9w, Stanolind Oil & Gas Co. took a large block after working with reflection seismograph in 1935. The California Co., gravity, 1939. **Extent of Development:** Shell farmed out acreage to Union Sulphur Co., which drilled Wurmnest 1 to 9250 ft, abnd Sept., 1936. Union Sulphur Co. drilled Prairie Land Co. 1, 1-11s-9w, quit in shale at 9041 ft, Sept., 1936. Stanolind Oil & Gas Co. drilled Prairie Land Co. 1 and abnd at 9120 ft, Aug., 1937. Humble's Knapp 1, s of Lake Charles core test, dry at 8004 ft, Dec., 1938. W. T. Burton and Continental Oil Co.'s Mayo Realty 1, Sec 11-8s-11w, on Sept. 10, 1940, was fishing for stuck drill pipe after blow out at 10,147 ft. Burford & Bateman's La. Farm & Livestock 1, 1cn, Sec 7-11s-9w, August, 1940. **Principal Leaseholders:** Shell, Stanolind, and Union Sulphur. Several major and independent oil companies have checkerboard acreage. See Southeast Lake Charles.

SOUTH SULPHUR*

4 mi s Sulphur, centering 10-10s-10w and in 10s-9w. **Means of Discovery:** Several shallow wells by Union Sulphur Co. and reflection seismograph, 1937. **Extent of Development:** One shallow well showed oil. After geophysical work, Union Sulphur's Bell 1, 10-10s-10w, fresh water sands 7828-33 ft, abnd 8473 ft, Nov., 1937. Same operator's American Oil & Sulphur Co, 1, 16-10s-10w, dry 8002 ft, Jan., 1938. **Principal Leaseholders:** Union Sulphur, Stanolind Oil & Gas Co.

SOUTHEAST LAKE CHARLES*

Se of Lake Charles, centering Section 30, 21-10s-8w, 10s-7w. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1936, Gulf Oil Corp., torsion balance and gravity meter, 1937. Later worked by Union Sulphur Co. after taking leases from W. D. Warner. **Extent of Development:** Union Sulphur's Irwin 1, 10-10s-8w, abnd 8472 ft, Jan., 1937. **Principal Leaseholders:** Humble, Gulf, Union Sulphur. **Remarks:** See East Lake Charles.

STARKS

Sections 19, 20, 30-9s-12w. **Means of Discovery:** Refraction seismograph, Gulf Refining Co., 1925. **Discovery Well:** Gulf's Lutcher-Moore 4, 2500 bbls, 4249 ft, Feb., 1927. **Structure:** Dome, top cap rock 1228 ft, salt 2218 ft. **Producing Formations:** Cap rock and sands at 525 to 1500 ft, Miocene and Oligocene sands 3025, 3422, 3721 ft, and 4100 to 4800 ft. **Average Sand Thickness:** 40 ft. **Productive Acres:** 100; 90 developed. **Daily Production, July 1, 1940:** 460 bbls from 24 wells. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through June, 1940:** 3,017,918 bbls. **Indicated Remaining Reserves:** 1,982,682 bbls. **Deepest Hole:** Gulf's Industrial Lbr. Co. 13, 7207 ft, abnd in heaving shale. **Oil Outlets:** Gulf Pipe Line Co., 6-in. **Range of Gravity:** 18-31. **Rigs Running, July 1, 1940:** One. **Principal Leaseholders:** Gulf, Lutcher Moore Lbr. Co. **Heaving Shale:** Below 6000 ft.

SULPHUR

Sections 20, 32, 29-9s-10w. **Means of Discovery:** Oil seepage and surface elevation. **Discovery Well:** Union Sulphur Co.'s Fee 719, Dec. 24, 1926, 400 bbls 21.5-gr oil daily, 3412 ft. **Structure:** Dome, top of cap rock 375 ft, salt 1460 ft. **Producing Formations:** Miocene-Oligocene sands at 2625 to 5187 ft (gas sand 2365-80 ft). Middle Oligocene at 5000 to 6715 ft. **Average Sand Thickness:** 100 ft. **Productive Acres:** 280; 240 developed. **Daily Production, July 1, 1940:** 2900 bbls from 65 wells. **Estimated Ultimate Recovery:** 25,000,000 bbls. **Production Through June, 1940:** 14,449,635 bbls. **Indicated Remaining Reserve:** 10,550,365 bbls. **Deepest Hole:** Union Sulphur's Fee 762, dry at 9250 ft in salt, April, 1931. **Oil Outlet:** Gulf Refining Co., 6-in. Union Sulphur has line to Rose Bluff. **Range of Gravity:** 19-36. **Rigs Running, July 1, 1940:** Two.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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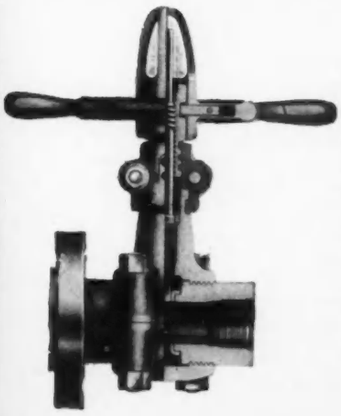
Additional Features: **Entire valve is of forged alloy steel; all parts subjected to wear are heat-treated; it is the only gate type valve without a metal-to-metal seal; the hubs are connected to the body by interlocking shoulders and grooves which permit the valve to be changed from screwed end to flanged end or any other type connection in a few minutes. This construction also allows the valve to swivel like a union when making up in a manifold.***

*Available in 2, 3, and 4 inch sizes — 6,000 lb. test pressure.



Cross-Section View of a Cameron Flex-Seal Mud Valve. **Note that the body is made in two pieces to facilitate replacement of the flow-way insert. The two-piece body is held together by four studs and is sealed by lips made integral with the flow-way insert.**

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Principal Leaseholders: Union Sulphur fee lands. **Remarks:** Sulphur discovered in 1868; wells listed include only tests made for oil after 700 sulphur tests were dr. First sulphur production on coast and long world's most important supply, yielding 10,000,000 long tons, 1903-1924. Frasch method of extracting sulphur from cap rock was perfected here.

VINTON

Sections 3, 4-11s-12w; 32, 33, 34, 35-10s-12w. **Means of Discovery:** Oil and gas seeps; surface elevation. **Discovery Well and Date:** Sabine Oil & Mineral Co.'s Johnson-Vincent 1, June 25, 1910, 60 bbls daily, 2230 ft. **Structure:** Overhanging type dome, top cap rock 428 ft, salt 925 ft. **Producing Formations:** Pliocene-Miocene sands at 1872 to 3600 ft; Oligocene at 3450 to 3500 ft; and Lower Oligocene at 3650 to 3974 ft. **Average Sand Thickness:** 90 ft. **Productive Acres:** 270. **Daily Production, July 1, 1940:** 1310 bbls. **Estimated Ultimate Recovery:** 50,000,000 bbls. **Production Through June, 1940:** 43,640,000 bbls. **Indicated Remaining Reserve:** 6,360,000 bbls. **Deepest Hole:** Went to Vicksburg, 6553 ft. **Oil Outlet:** Trucks. **Range of Gravity:** 2430 ft, 18.7; 3100 ft, 20; 3200 to 3950 ft, 33. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Gulf Oil Corp., Vinton Petroleum Co., Wilson-Broach Oil Co. **Remarks:** M. H. Hannah's Reed 1, Sec 18-10s-12w, extension attempt, dry at 3133 ft, Aug., 1940. **Heaving Shale:** Found around 4030 ft. Over 800 ft of the formation has been penetrated, and operators have been unable to get through the Lower Oligocene.

CAMERON PARISH

BIG LAKE**

Section 18-12s-8w, 13-12s-9w. **Means of Discovery:** Reflection seismograph, Magnolia Petroleum Co., 1934. **Discovery Well:** Magnolia's Broussard 1, dr to 9500 ft, pb and perforated 8020 to 8026 ft, 35,000,000 ft gas, 49.7-gr distillate. Hole pb and perforations from 7944 to 7966 ft, gas and distillate, Dec. 24, 1935. Union Sulphur Co.'s Hebert 1, 18-12s-8w, May 5, 1937, 8336 ft, 550 bbls 38.9-gr oil daily. **Type Structure:** Deep dome. **Producing Formations:** Oligocene at 6779-83 ft; 7843-45 ft; 7944 to 7966 ft; 8226 to 8229 ft; 8326 to 8334 ft; 9040 to 9060 ft; 9140-57 ft. **Average Sand Thickness:** 25 ft. **Productive Acres:** 160, 160 developed. **Daily Production, July 1, 1940:** None, field abnd. 1939. **Estimated Ultimate Recovery:** 75,000 bbls. **Production Through June, 1940:** 75,000 bbls. **Indicated Remaining Reserves:** None. **Deepest Hole:** Union Sulphur's Hebert 1, workover, killed at 9060 ft, dr 10,521 ft, pb and comp 9140-57 ft, Oct., 1938. **Oil Outlets:** Barge. **Gravity Oil:** 6779-83 ft, 40.7-gr; 8000 ft, 49-gr; 8336 ft, 38.9-gr; 7843-45 ft, 44-gr; 9140-58 ft, 29-gr. **Rigs Running July 1, 1940:** None. **Principal Leaseholders:** Magnolia, Union Sulphur Co., Stanolind Oil & Gas Co.

BLACK BAYOU

Sections 7, 8, 17, 18-12s-12w. **Means of Discovery:** Surface indications; seismograph, Shell Oil Co., 1927. **Discovery Well:** Shell's Watkins 9, 29 bbls 19.6-gr oil daily, 981 ft, April 15, 1929. **Structure:** Dome, cap rock 884 ft, salt 1701 ft. **Producing Formations:** Miocene at 965 to 981 ft and 3897 to 4727 ft; Middle Oligocene at 5000 to 5100 ft; 5118 to 5263 ft; 6195 to 6228 ft; and 6619 and 6638 ft. **Average Sand Thickness:** 110 ft. **Productive Acres:** 250, 210 developed. **Daily Production, July 1, 1940:** 2650 bbls from 20 wells. **Estimated Ultimate Recovery:** 12,000,000 bbls. **Production Through June, 1940:** 7,559,842 bbls. **Indicated Remaining Reserve:** 4,440,158 bbls. **Deepest Hole:** Earth Petroleum Co.'s Moore 1, sec 18-12s-12w, dr to 8332 ft, abnd, Oct., 1939. **Oil Outlets:** Barge. **Range of Gravity:** 18-23. **Rigs Running July 1, 1940:** 1. **Principal Leaseholders:** Shell, Brownie-Babbette Oil Co. **Heaving Shale:** Found under Section 17-12s-12w, around 6413 ft and 7180 ft.

CALCASIEU LAKE†

In Calcasieu Lake, one mi w of Section 36-13s-9w; 14s-9w. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1927; reflection seismograph, Superior Oil Co., 1939. **Structure:** Dome, cap rock 1490 ft, salt 2345 ft. **Extent of Development:** 10 dry tests, through 1935. **Deepest Hole:** The Texas Co.'s Jessen 1. (See St. John Island). **Principal Leaseholder:** The Texas Company.

CAMERON*

South of Calcasieu Lake, Section 29-15s-10w. **Means of Discovery:** Reflection seismograph, Southern Sulphur Co., 1932. **Extent of Development:** Southern Sulphur Co.'s Gulf of Mexico 1, quit at 3200 ft, June, 1934; State 2, quit at 2611 ft, June, 1937. **Principal Leaseholders:** Southern Sulphur Co., Stanolind Oil & Gas Co.

CAMERON MEADOWS

Sections 15, 16, 21-14s-13w. **Means of Discovery:** Gas seeps; seismograph and torsion balance, Vacuum Oil Co., 1929. **Discovery Well:** Vacuum's Cameron Meadows 1, spray of 30-gr oil, 3850 ft, Jan. 20, 1931. Vacuum's No. 2, sec 21, 2400 bbls+ 41-gr oil daily, ½-in choke, Miocene, 5263-5273 ft, Oct. 10, 1931. **Structure:** Dome, salt 6200 ft. **Producing Formations:** Miocene at 3327 to 4969 ft and at 5235 to 5273 ft. **Average Sand Thickness:** 40 ft. **Productive Acres:** 300, 220 developed. **Daily Production, July 1, 1940:** 2065 bbls from 33 wells. **Estimated Ultimate Recovery:** 15,000,000 bbls. **Production Through June, 1940:** 7,725,375 bbls. **Indicated Remaining Reserve:** 7,724,625 bbls. **Deepest Hole:** Texas Co.'s Miami Fee 1, dr to 9331 ft in salt. **Oil Outlet:** Barge. **Range of Gravity:** 3300 to 4100 ft, 22 to 27-gr. **Rigs Running, July 1, 1940:** 4. **Principal Leaseholders:** W. T. Burton, Magnolia Petroleum Co., The Texas Co.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

CATFISH LAKE*

Section 8, 18-14s-5w, 7, 11-14s-6w. **Means of Discovery:** Reflection seismograph, Pure Oil Co., 1925; Humble Oil & Refining Co., torsion balance and seismograph, 1935 and 1936. Phillips Petroleum Co., 1939. **Extent of Development:** Humble's Miami 1, dr to 10,177 ft pb to 7849 ft, abnd Jan., 1938; Miami 1-B, 7-14s-6w, oil odor 5600 ft, 9⅝-in csg 7398 ft, salt water 8650 ft, dr to 10,895 ft, abnd June, 1938. Ash Robinson's Mermentau 1, 30-14s-6w, abnd 6530 ft, July, 1938. **Principal Leaseholder:** Phillips. **Remarks:** Also referred to as Premo or Little Cheniere area. Phillips seismograph work resulted in discovery of Petit Cheniere field.

CHALKLEY

Ne of Sweet Lake, Sections 8, 9, 16, 21-12s-6w. **Means of Discovery:** Reflection seismograph and torsion balance, Shell Oil Co., Humble Oil & Refining Co., 1934-1937. **Discovery Well:** Humble's Hanszen 2, Nov. 6, 1938, from perforations at 8562 to 8568 ft, 9 bbls 52.9-gr distillate daily, ⅛-in choke. Humble's School Land 1, 16-12s-6w, Feb. 19, 1934, 504 bbls 38-gr oil daily, 8949-59 ft. **Structure:** Probable deep dome. **Producing Formations:** Oligocene from 8438-47 ft; 8562 to 8568 ft; 8949-59 ft; 8833-76 ft; 8664-68 ft. **Average Sand Thickness:** 8 ft. **Productive Acreage:** 2000, 650 developed. **Estimated Ultimate Recovery:** 20,000,000 bbls. **Daily Production, July 1, 1940:** 1250 bbls from 14 wells. **Cumulative Production, July 1, 1940:** 626,782 bbls. **Estimated Reserve:** 19,373,218 bbls. **Deepest Hole:** Discovery, drilled to 11,693 ft. **Oil Outlets:** Barge. **Gravity of Oil:** 8562 to 8568 ft, 52.9-gr; 8438-47 ft, 49-gr; 8664-68 ft, 36-gr; 8949-59 ft, 38-gr. **Principal Leaseholders:** Humble, Shell.

CREOLE

1 mi offshore of Cameron Parish and Section 4-15s-8w, in Gulf of Mexico. **Discovery Means:** Reflection seismograph, Superior Oil Co. and Pure Oil Co., 1933 and 1934. **Discovery Well:** Superior and Pure's State 1, Jan. 11, 1938, 10 bbls per hour, 33.9-gr oil, 7/64-in choke. **Type Structure:** Dome. **Approximate Elevation:** Sea level. **Producing Formations:** Miocene 5110 to 5159 ft; 6765-75 ft; 6847-54 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 500; 200 developed. **Daily Production, July 1, 1940:** 1400 bbls from 11 wells. **Estimated Ultimate Recovery:** 12,500,000 bbls. **Production Through June, 1940:** 1,066,080 bbls. **Indicated Remaining Reserve:** 11,433,-920 bbls. **Deepest Hole:** Superior's Sells 1, n of discovery well, 5-15s-8w, missed prod sand dr 10,085 ft, July, 1938. **Oil Outlet:** Pure, 8-in. **Gravity Oil:** 33.9; 6854 ft, 49.5; 6765-75 ft, 33-38. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Superior and Pure, 50-50 basis. **Remarks:** First oil field out in Gulf of Mexico. Wells drilled directionally from platform.

EAST HACKBERRY

Sections 11, 12, 13, 14, 17, 19, 24, 27, 37, 36-12s-10w; 44, 46-12s-9w. **Means of Discovery:** Gas seeps; refraction seismograph, Calcasieu Oil Co., 1926. **Discovery Well:** Calcasieu, Magnolia Petroleum Co. and Union Sulphur Co., Caldwell 2, 1000 bbls 3998 ft, Nov., 1927. **Structure:** Dome, cap rock 2955 ft, salt 3588 ft. **Producing Formations:** Miocene-Pliocene at 2592 to 3046 ft; Miocene at 3800 to 4181 ft; Middle Oligocene 5481 to 5510 ft; 5797 to 6947 ft; Oligocene at 7277, 7325, 7193-7208; 7763-74 ft, 7900-20 ft; 7490, 7598, 7664 ft, (oil shows 8320-8330 ft). **Average Sand Thickness:** 60 ft. **Productive Acres:** 600; 500 developed. **Daily Production, July 1, 1940:** 4992 bbls from 62 wells. **Estimated Ultimate Recovery:** 33,000,000 bbls. **Production Through June, 1940:** 24,-130,000 bbls. **Indicated Remaining Reserve:** 8,870,000 bbls. **Deepest Hole:** Union Sulphur's O'Quinn, Sec 37-17s-10w, dr to 9665 ft, pb and comp 7603 ft, July, 1939. **Oil Outlet:** Barge. **Range of Gravity:** 3981 ft, 24.3 gr.; 5900 and 6150 ft, 26.7 gr.; 7500 to 7600 ft, 30 to 31 gr; 6752-7079 ft, 30.9 gr; 7820-38 ft, 44 gr. **Rigs Running, July 1, 1940:** Two. **Principal Leaseholders:** Calcasieu Oil Co., Stanolind Oil & Gas Co., The Texas Co., Union Sulphur Co., Gulf Oil Corp. **Remarks:** Union Sulphur Co. has a small repressuring plant on edge of dome. **Heaving Shale:** Around 4750 ft and 7980 ft. Over 1200 ft of shale has been penetrated.

GRAND LAKE

In Grand Lake, Section 11 and 24-13s-4w. **Means of Discovery:** Geophysics, Pure Oil Co., rechecked by reflection seismograph in 1938 by Superior Oil Co. **Discovery Well:** Superior's State 1, May 6, 1939, 384 bbls 32.8-gr oil, 10/64-in choke, perf. 8365 to 8392 ft. **Type Structure:** Deep dome. **Producing Formations:** Miocene sands 8359-92 ft; 8434-58 ft; 6715-17 ft. **Average Sand Thickness:** 60 ft. **Productive Acres:** 500; 200 developed. **Daily Production, July 1, 1940:** 4100 bbls from 15 wells. **Cumulative Production July 1, 1940:** 512,227 bbls. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Indicated Remaining Reserves:** 9,487,793 bbls. **Deepest Hole:** Superior's State 2, 11-13s-4w, abnd 9776 ft, Oct., 1939. **Oil Outlet:** Barge. **Range of Gravity:** 8365-92 ft, 32.8; 6715-17 ft, 33.7. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholders:** Superior, 72,000 acres in lake. Pure Oil Co., Amerada Petroleum Corp. **Remarks:** See Mallard Bay. Superior uses directional drilling in this field. State 5 discovered 6715 ft, sand, Dec., 1939.

GULF OF MEXICO BLOCK "2"

Off shore of Cameron Parish and Section 24-16s-6w. **Means of Discovery:** Reflection seismograph, Pure Oil Co. and Superior Oil Co., 1936 and 1937. **Extent of Development:** Undrilled. **Principal Leaseholders:** Pure and Superior, 50-50 basis. See Creole.

HACKBERRY

Sections 16, 17, 20, 21, 22, 23, 27, 28, 29, 30, 31-12s-10w. **Means of Discovery:** Elevation, gas seepage; paraffin dirt. **Discovery Well:** Cameron Oil Co.-Rycade Oil Corp.'s Duhon 1, 200 bbls. 22-gr 3154 ft, Dec. 1, 1928. **Structure:** Dome, cap rock 1650 ft, salt 2078 ft. **Producing Formations:** Miocene-Pliocene and Oligocene at 2950 to 3250 ft; 3275 to 3633 ft; 3850 ft; 3903 to 3909 ft; 4160 to 4172 ft; 4276 to 4330 ft; 4340 to 4690 ft; 4764 to 4775 ft; 4843 to 4875 ft; 5660 ft; 5850 to 5862 ft; 5912 to 5996 ft; 6235 to 6240 ft. Southwest flank, 6480-6525 ft; 6550-648 ft; 6852-69 ft; 7065-80 ft;

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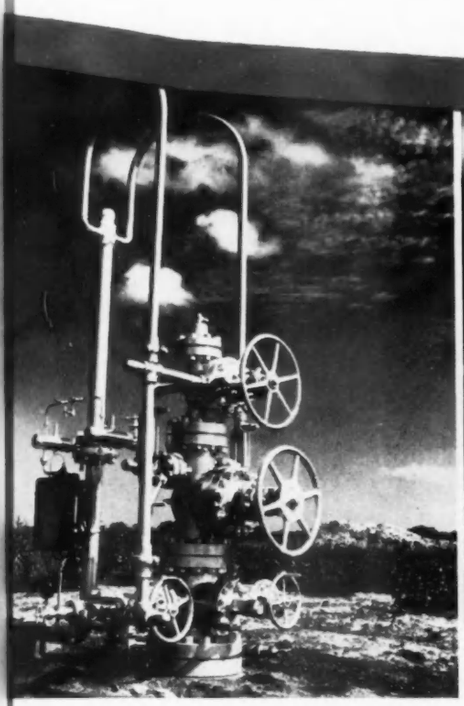
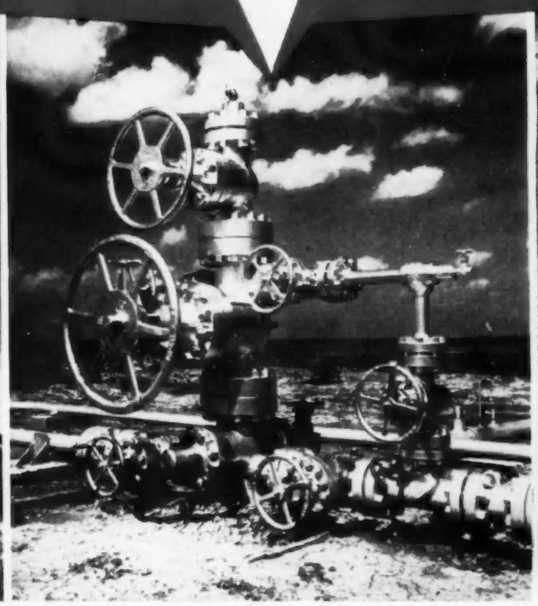
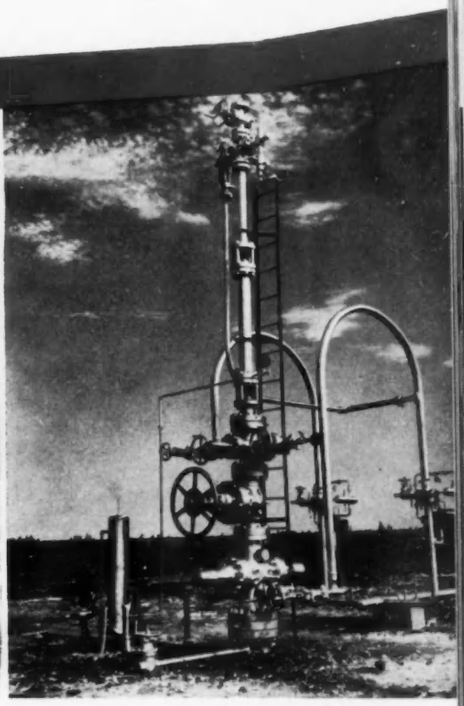


• A Cameron 6000-lb. test Safety Xmas Tree. Note the Type LD Tubing Control Head. Also, the unitized Flow Wings which combine the double function of a gate valve and positive flow bean.



• A Cameron 10,000-lb. test Safety Xmas Tree on an input well in a South Texas field. Foundation for this tree is provided by a Cameron 10,000-lb. test Type LD Tubing Control Head.



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7110-50 ft; 7800-53 ft; 8088-148 ft; 9290-315 ft. **Average Sand Thickness:** 35 ft. **Productive Acres:** 300; 300 developed. **Daily Production, July 1, 1940:** 4865 bbls from 111 wells. **Estimated Ultimate Recovery:** 12,000,000 bbls. **Production Through June, 1940:** 7,091,000 bbls. **Indicated Remaining Reserve:** 12,909,000 bbls. **Deepest Hole:** Superior's Vincent 5, Sec 30-12s-10w, sw flank, disc new sd 7800-10 ft, dr to 8210 ft, Feb., 1939. Stanolind's Cameron School Land 21, 16-12s-10w, disc new sd, 9290-9315 ft, April, 1940. School Land 22 verified new sand, Sept., 1940, north flank. **Oil Outlet:** Barge. **Range of Gravity:** 3200 to 3250 ft, 21-gr; 3300 to 5990 ft, 31 and 32-gr; 6480-6648, 38-gr. 7800-10 ft, 40; 7522-30 ft, 38; 8088-148 ft, 43; 9290-315 ft, 29.5. **Rigs Running, July 1, 1940:** 3. **Principal Leaseholders:** Stanolind Oil & Gas Co., Pure Oil Co., J. G. Sutton, Superior Oil Co. **Remarks:** This is considered a twin dome with East Hackberry, being the w uplift of a salt mass underlying both fields. Mathieson Alkali Works takes brine from this field. Superior discovered a new sand on the sw flank of dome in 1938 and 1939. **Heaving Shale:** Around 7500 ft.

JOHNSON'S BAYOU (Sabine Lake)*

S of Sabine Lake, Sections 1, 10-15s-15w, and 8 and 16-15s-14w. **Means of Discovery:** Surface indications; reflection seismograph, Magnolia Petroleum Co., 1935. Reflection Seismograph, Humble Oil & Refining Co., 1935. **Extent of Development:** Yount-Lee Oil Co.'s Stark 1, quit at 7657 ft, Jan., 1930. Humble-Sun's Peterson 1, 6-15s-14w, dry, 5287 ft, 1926. Magnolia's School Land 1, slight show of oil 4747 to 4759 ft, odor gas 8207 to 8217 ft, gas show 5759 to 5765 ft, heaving shale 9180 ft, abnd Nov. 11, 1936. Magnolia's Grey 1, 8-14s-15w, drill to 7421 ft, hole off vertical, abnd March, 1937; A. Dobertine 1, 9-15s-14w, quit in shale at 8309 ft, May, 1937. Humble's Fee 1, 7-15s-14w, abnd, Nov., 1939, 7117 ft; Pavell 1, 5-15s-14w, dry at 7517 ft, Nov., 1939. **Principal Leaseholders:** Magnolia Petroleum Co., Stanolind Oil & Gas Co., Humble, Gulf Oil Corp. **Heaving Shale:** Was found in School Land 1 at 9180 ft.

LAKESIDE

12s-4w. **Means of Discovery:** Geophysics, Lisbon-Iberia Oil Co. **Extent of Development:** Undrilled. **Principal Leaseholder:** Lisbon-Iberia Oil Co.

MALLARD BAY*

On Mallard Bay and e of Grand Lake, Sections 4, 5, 9, 14, 16 and 22-13s-3w; 31, 32-12s-3w. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1928. Torsion balance and reflection seismograph (2 to 12-12s-3w), Humble Oil & Refining Co., 1934. Reflection seismograph, Pure Oil Co., 1934, 1936. **Extent of Development:** Shell's Mareaux 1, 32-12s-3w, dry 7229 ft, 1930. Pure Oil Co.'s State 1, 22-13s-3w, oil odor 4869 to 4874 ft, 9⅝-in csg at 7906 ft, stuck drill pipe at 10,146 ft, pb 6923 ft, perforated csg 5945 to 5955 ft, 10 shots. DST showed oil, gas, mud, and salt water. Perforated 5763 to 5768 ft, showed salt water, abnd March, 1937. State 2, drilled to 9445 ft, blew out, made gas, salt water, and sand, abnd Oct., 1937. North of Mallard Bay, Pure's Calcasieu Bank 1, 18-12s-4w, dry at 8293 ft, Aug., 1938; Calcasieu Bank 2, 18-12s-4w, abnd 7989 ft, Sept., 1938; Calcasieu Bank 3, 19-12s-4w, abnd 8051 ft, Dec., 1938. **Principal Leaseholders:** Shell, Pure, Amerada Petroleum Corp.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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MUD LAKE*

Sections 28, 29, 32, 39-14s-11w. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1927. Reflection seismograph, Pan-American Production Co., 1935. Geophysical work by Humble Oil & Refining Co., 1937. **Extent of Development:** Pan-American's Lutcher-Moore 1, 14s-11w, quit at 7229 ft, Jan., 1936.

PETIT CHENIER

6 mi w Catfish Lake Sec 11-14s-6w. **Means of Discovery:** Reflection seismograph, Phillips Petroleum Co., 1939. **Discovery Well:** Phillips' Miami 1, 11-14s-6w, 125 bbls 48-gr dist, 2,000,000 ft gas, 9/64-in ch, 10,194-200 ft, tbg pressure 4440 pounds, July 18, 1940; made 20 percent salt water for several days and was reworked. **Estimated Ultimate Recovery:** No estimate. Sept. 10, 1940, a second test had not been drilled. **Oil Outlet:** None. **Principal Leaseholder:** Phillips.

ST. JOHN'S ISLAND*

Section 23-14s-10w. **Means of Discovery:** Torsion balance, Fohs Oil Co., 1934. Seismograph, The Texas Co. **Extent of Development:** The Texas Co.'s Jessen 1, slight show of oil, 7358 ft, quit 9030 ft, April, 1935. **Remarks:** Sometimes referred to as Lower Calcasieu Lake.

SWEET LAKE

Section 12-13s-8w. **Means of Discovery:** Gas seepages. **Discovery Well:** Pure Oil Co.'s Sweet Lake 1, blew out and cratered at 4502 ft, 1926. Sweet Lake 2, flowed 193 bbls daily from 5195 ft, 1927. **Structure:** No dome material encountered, although regarded as possible deep dome. **Producing Formations:** Miocene at 4457 to 4594 ft; 5125 to 5897 ft; 6362 to 6385 ft; 6552 to 6562 ft; 6784 to 6813 ft; sands at 7137-42 ft; 7366 to 7387 ft. **Average Sand Thickness:** 45 ft. **Productive Acres:** 100; 90 developed. **Daily Production, July 1, 1940:** 1465 bbls from 8 wells. **Estimated Ultimate Recovery:** 7,500,000 bbls. **Production Through June, 1940:** 4,395,094 bbls. **Indicated Remaining Reserves:** 3,104,906 bbls. **Deepest Hole:** Pure's Stanolind 13, wo, dr to 8928 ft, tested salt water in lower horizons was comp as gas well at 6552-62 ft, March, 1938. **Oil Outlet:** Barge. **Gravity Oil:** 28.8; 7137-42 ft, 35.4. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholder:** Pure Oil Co. **Heaving Shale:** Below 6500 ft.

WILLOW LAKE*

Centering Section 32, 33-12s-8w. **Means of Discovery:** Geophysics, Magnolia Petroleum Co., 1934. **Extent of Development:** Magnolia's Miami 1, 32-12s-8w, abnd 8490 ft, March, 1936. Union Sulphur Co.'s Miami 3, 33-12s-8w, abnd 9867 ft, Oct., 1938. **Principal Leaseholders:** Magnolia, Union Sulphur Co.

EAST BATON ROUGE PARISH

BAYOU MANCHAC*

Centering Sec 25-8s-1e. **Means of Discovery:** Geophysics. **Extent of Development:** Undrilled. **Principal Leaseholders:** F. W. Bennett, Tide Water Associated Oil Co., Stanolind Oil & Gas Co.

HOPE VILLA*

E of Baton Rouge field centering Sec 58-7s-1e. **Means of Discovery:** Reflection seismograph, 1931. **Extent of Development:** Gulf State's Greater University 1, dry 7678 ft, May 1939. Danciger Oil & Refineries made location in 58-7s-1e, but later abnd. Ferris & Golding's McInnish, 58-7s-1e, show oil below 6500 ft, abnd 7502 ft, Dec., 1939. **Principal Leaseholders:** Danciger, Ferris & Golding assembled block after Danciger dropped all except commercial leases, Golding & Ferris' Old Paulet 1, 57-7s-1e, to 6838 ft, May, 1940, abnd 6838 ft. **Remarks:** Barnsdall Oil Co. has block in 30-7s-2e, taken on reflection seismograph.

NORTH ZACHARY*

Centering Sec 1e-4s-1e. **Means of Discovery:** Geophysics, H. J. Balter, old geophysical prospect. **Extent of Development:** B. H. J. Balter's Balter-Ratcliff 1, 45-4s-1e, sw sands 6510-16 ft, abnd Dec., 1939. **Principal Leaseholders:** H. J. Balter, Gulf Stream, W. B. Powell (Trustee for Consolidated Oil Co.), Drunell Oil Co. **Remarks:** Continental Oil Co. attempted to block this area at one time and then surrendered every acre it owned.

PLAINS*

Around town of Plains, Sec 4s-1w. **Means of Discovery:** Geophysics, Cavalier Oil Co. **Extent of Development:** Undrilled. **Principal Leaseholders:** Cavalier, Barnsdall Oil Co.

UNIVERSITY (Baton Rouge)

S of Baton Rouge, centering around Sections 36, 46, 45, 67, 30, 66, 65, 68-7s-1w. **Discovery Means:** Torsion balance, 1933, Carl Young; reflection seismograph, Hoard Exploration Co., 1935, for Superior Oil Co. Later for William Helis. **Discovery Well:** Louisiana Crusader and William Helis' Duplantier 1, 520 bbls daily, 33.2-gr, 3/16-in choke, 6477 ft, Jan. 21, 1938. **Type Structure:** Dome. **Producing Formations:** Miocene sands 6421 ot 6500 ft; 7158-68 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 740; 510 developed. **Daily Production, July 1, 1940:** 8902 bbls from 67 wells. **Estimated Ultimate Recovery:** 13,300,000 bbls. **Production Through June, 1940:** 3,388,411 bbls. **Indicated Remaining Reserve:** 9,911,589

bbls. **Deepest Hole:** Superior's Duplantier Community 1, 65-7s-1w, dr to 10,360 ft, Oct., 1935; had several oil and gas shows 6200 to 8600 ft, good show oil in Marginulina at 8534-88 ft, with lower section sw. Pb and perforated at 6500-05 ft, showed 33-gr oil, gas and sw, abnd. Was taken over by William Helis and completed as good producer. **Oil Outlets:** Pipe line to Mississippi river, barge. **Gravity Oil:** 6421-80 ft, 32-38. **Principal Leaseholders:** William Helis, Louisiana Progress, Superior, Lisbon-Iberia Oil Co., Geo. Echols, Guaranty Oil Co., Texas Canadian Oil Co., Markley & Crosby. **Remarks:** Superior found field and farmed out all its acreage retaining interest in some tracts. British American Oil Co. once held the block.

EAST FELICIANA PARISH

CLINTON*

Near town of Clinton, centering Section 69-2s-3e. **Means of Discovery:** Torsion balance, Kirby Petroleum Co., 1935. Dick Norton, reflection seismograph, 1939. **Extent of Development:** G. C. Koch et al's Andrews 1, reported gas show 4141 ft, top Cockfield 5889 ft, abnd 6132 ft, July, 1937. **Remarks:** Dick Norton assembled block in 1939, worked with reflection seismograph, released. Byrd Hamilton leased in area, assigning to Magnolia Petroleum Co.

JACKSON*

Centering around Section 34-2s-1w. **Means of Discovery:** Geophysics, Barnett Petroleum Co., 1936. **Extent of Development:** Barnett Petroleum Co.'s Tullos 1, dry 6500 ft, March, 1937, top Cockfield 6262 ft. **Principal Leaseholder:** Barnett.

SLAUGHTER*

Southeast of Slaughter, centering Section 16-4s-1e. **Means of Discovery:** Reflection seismograph, 1937. Core drilling. **Extent of Development:** Cavalier Oil Co. drilled a number of shallow holes. **Remarks:** Continental Oil Co. dropped acreage in area after geophysical work. Barnsdall Oil Co. took lease in area in 1939 and worked with reflection seismograph.

EVANGELINE PARISH

BAYOU CHICOT*

Northeast of Pine Prairie, centering Section 2-3s-1e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co. and Louisiana Crusader Oil Co., 1935, 1936, 1937. Tide Water Associated Oil Co. worked with gravimeter, 1939. **Extent of Development:** La. Crusader's Hass 1, dry 7506 ft, March, 1937, in Cockfield. **Principal Leaseholders:** Texas Co., Tide Water, Humble, Gulf Oil Corp. **Remarks:** Also known as Chico.

CHATAIGNIER*

Near town of Chataignier, centering Section 34-5s-1e. **Means of Discovery:** Torsion balance, Gulf Oil Corp., 1936. **Extent of Development:** Undrilled. **Principal Leaseholders:** Gulf, Stanolind Oil & Gas Co., Sun Oil Co., Felmont Oil Corp., Kirby Petroleum Co.

EAST VILLE PLATTE*

East of Ville Platte field, centering Section 61-4s-3e. **Means of Discovery:** Torsion balance, Perry Scranton, 1937. **Extent of Development:** Undrilled. **Principal Leaseholders:** Perry Scranton, Tide Water Associated Oil Co.

NORTH BASILE*

Northeast of Basile, centering Section 14-6s-2w. **Means of Discovery:** Magnetometer, Frank Muckfer; torsion balance, Stanolind Oil & Gas Co., 1934; seismograph, 1935-1939. **Extent of Development:** Basile Oil Co.'s Hirsch 1, 14-6s-2w, show oil and gas, 6994-7052 ft and 7534 ft; top sand 7185 ft, show oil 6994-7052 ft and 8046-50 ft on ether test, one foot gas sand 8050-59, quit 8438 ft, March, 1936. **Principal Leaseholders:** Stanolind, W. Williams et al, Gulf Refining Co.

PINE PRAIRIE

Sections 35, 36-3s-1w, 1-4s-1w. **Means of Discovery:** Outcrop of limestone of cap rock. **Discovery Well:** Myles Mineral Co.'s No. 8, 1912, 1000 bbls, 1300 ft. **Structure:** Dome, cap rock at surface, top salt 516 ft. **Producing Formations:** Cap at 1300 ft and Miocene at 2340 ft. **Productive Acres:** 20. **Daily Production, July 1, 1940:** None; field abnd 1919. **Estimated Ultimate Recovery:** 20,000 bbls. **Production Through 1919:** 20,000 bbls. (Field abnd 1919.) **Indicated Remaining Reserve:** None. **Deepest Hole:** Schlicher Prod. Co.'s LeDenois Land & Stone Co. 1, dry, 5916 ft, Jan., 1938. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Stanolind Oil & Gas Co., Pan American Production Co., Gulf Oil Corp., W. L. Trotter, Humble Oil & Refining Co. **Remarks:** Cap rock is quarried from this dome. De Arman tried to promote 9000-ft well e½ of se¼ of Sec 36-3s-1w.

REDDELL*

3 mi n and e Reddell, centering Sections 18, 22-4s-1w, 44-3s-2w. **Means of Discovery:** Surface indications, gravity meters, reflection seismograph, torsion balance, pendulum, Humble Oil & Refining Co., 1934; reflection seismograph, Continental Oil Co., 1936. **Structure:** Indicated dome formation or some unusual subsurface structure. **Extent of Development:** Humble's Haas 1, 22-4s-1w, showings of oil between 6627-31 ft, abnd 8014 ft, in Vicksburg, 1935. Continental-Humble's Pardee Lumber Co. 1, 18-4s-1w, topped Vicksburg 7080 ft, dry 8875 ft, May, 1937, in Upper Cook Mountain. Continental's Manvel 1, 44-3s-2w, Het 5024 ft, Vick 7740 ft, Jackson 8375 ft, Yegua 8645 ft, Cookfield Mtn 9125 ft, Wilcox 10,960 ft, electric log 11 ohms 9349-60 ft; 8 ohms third curve, 16 ohms fourth curve; 9883-9912 ft, maximum 10 ohms third curve, 30 ohms fourth curve. Drilled to 11,341 ft, pb perforated 9852-65 and 9885-9905 10-min dst, no oil, gas or sw, abnd, July, 1939. **Principal Leaseholders:** Humble, Continental, Sun, Danciger Oil & Refineries, Fidelity Oil Co.

SOUTH VILLE PLATTE*

South of Ville Platte, centering Section 48-4s-1e. **Means of Discovery:** Reflection seismograph by Tide Water Associated Oil Co., 1937, failed to indicate structure and acreage was dropped in 1937. **Extent of Development:** Undrilled.

VILLE PLATTE

6 mi n of Ville Platte, centering around Sections 27, 36, 44, 45, 46, 47-3s-2e. **Means of Discovery:** Surface indications, reflection seismograph and torsion balance, Continental Oil Co., 1936. **Discovery Well:** Continental Oil Co.'s Tate 1, 177 bbls 52.4-gr oil daily, 3/16-in choke, Sept. 17, 1937, 9035 ft. **Type Structure:** Dome. **Producing Formations:** Sparta, Tate and Haas sands 8887-8905 ft, 8954 to 9089 ft; Wilcox 10,055-085 ft, 10,230-245, 10,118-157 ft. **Average Sand Thickness:** 63 ft. **Productive Acres:** 2500; 990 developed. **Daily Production, July 1, 1940:** 15,815 bbls from 118 wells. **Estimated Ultimate Recovery:** 54,500,000 bbls. **Production Through June, 1940:** 7,071,094 bbls. **Indicated Remaining Reserve:** 47,428,906 bbls. **Deepest Hole:** Continental's W. L. Tate 1, drilled to 10,930 ft, had good saturated Wilcox sand pb and comp 8900 ft, May, 1939. **Oil Outlet:** Continental Oil Co.'s 6-in to Tepetate. **Gravity Oil:** 9000 ft, 41 to 63.8; 10,055-85, 53.2; 10,230-245, 39; 10,118-157, 41.2. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholders:** Continental (7000-ac), Texas Co., Amerada Pet. Corp. **Remarks:** Continental's Tate 1 was the first well in South Louisiana to produce from Sparta and opened a new producing horizon along Conroe trend. In June, 1939, Continental's Haas 3 was completed for 312 bbls daily, 3/16-in choke, in Wilcox, opening new pay for field. Well is reported to have over 300 ft of sand. Second field in South Louisiana to produce from Wilcox. Continental has gasoline plant in field. Reserve in Wilcox is difficult to estimate because of lensing and persistent thinning. An extension program has been carried out on Continental's gasoline plant, bringing the capacity to 100,000,000 feet through-put daily, with a daily recovery of natural gasoline estimated at 138,000 gallons. The plant, with pressure maintenance system and crude desalting unit, represents an investment of $750,000.

IBERIA PARISH

AVERY ISLAND†

Sections 37, 38, 39, 53, 56-12s-5e; 55, 56, 58, 59-13s-6e. **Means of Discovery:** Elevation above marshes. Rock salt found May 6, 1862, by John Marsh Avery. Reflection seismograph, The Texas Co., 1939. **Structure:** Dome, no cap rock, salt at 35 ft. **Extent of Development:** Through 1935, 4 tests, all dry. **Deepest Hole:** The Texas Co.'s Petit Anse 1, 59-13s-6e, abnd 11,155 ft, April 1, 1939. **Remarks:** Salt mine. **Principal Leaseholders:** Surrounding dome and marsh lands Louisiana Land & Exploration Co. has all leases. This company outlined the dome in 1936 with geophysical work and farmed out to The Texas Co. who assigned to Louisiana Land & Exploration Co. in 1939 after drilling dry hole. In Sec 36, Moser took 4500 acres. **Remarks:** Amerada has 4700 acres scattered in Sections 9s-9e, 10s-9e, 11s-9e, 11s-10e and 12s-10e. Worked with reflection seismograph.

BAYOU PIGEON

Centering Sec 13-10s-12e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1936. **Discovery Well:** Plymouth Oil Co.'s McHugh Heirs 1, Shell farmout, 13-10s-12e, flowed 8 bbls 35.6-gr oil hourly through 7/64-in choke, tbg/csg pressure 800/525 lbs, 8052-72 ft, March 19, 1940, shows up hole. Well qualified for 250 bbls daily allowable. **Producing Formation:** Oligocene sds 8052-72 ft. At Sept. 1, 1940, LeBlanc 1, Plymouth's confirmation test, was was being comp in discovery sd 8055-72 ft. **Average Sand Thickness:** 18 ft. **Productive Acreage:** 240, 40 developed. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Daily Production, July 1, 1940:** 250 bbls from 1 well. **Cumulative Production July 1, 1940:** 15,250 bbls. **Estimated Reserve:** 1,984,750 bbls. **Gravity:** 35.6. **Rigs Running July 1, 1940:** One. **Principal Leaseholders:** Shell, Plymouth, Amerada Petroleum Corp., Louisiana Land & Exploration Co.

FAUSSE POINT

Sections 26, 27, 34, 35-11s-8e. **Means of Discovery:** Refraction seismograph, Gulf Refining Co., 1926. **Discovery Well:** Union Sulphur Co.'s Shaw Fee 1, 200 bbls, 1394 ft, Feb., 1927. See Remarks. **Structure:** Dome, top cap rock 800 ft, salt 850 ft. **Producing Formations:** Plio-Miocene and cap rock, 1123 to 1392 ft, 6384 to 6430 ft. Miocene 4993 and 7939 to 9000 ft. **Average Sand Thickness:** Thin sand streaks with shale 6303 to 6553 ft. **Productive Acres:** 50; 20 developed. **Daily Production, July 1, 1940:** 70 bbls from 3 wells. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Production Through June, 1940:** 43,097 bbls. **Deepest Hole:** The Texas Co.'s State 5, drilled to 12,125 ft, made tests up hole, showed sw, abnd May, 1939. **Oil Outlets:** Barge. **Range of Gravity:** 6300 ft, 34.6; 4993 ft, 36.9. **Rigs Running July 1, 1940:** One. **Principal Leaseholders:** Texas Co., Sun Oil Co., Magnolia Petroleum Co. **Remarks:** Was called Loreauville and Eagle Point. The

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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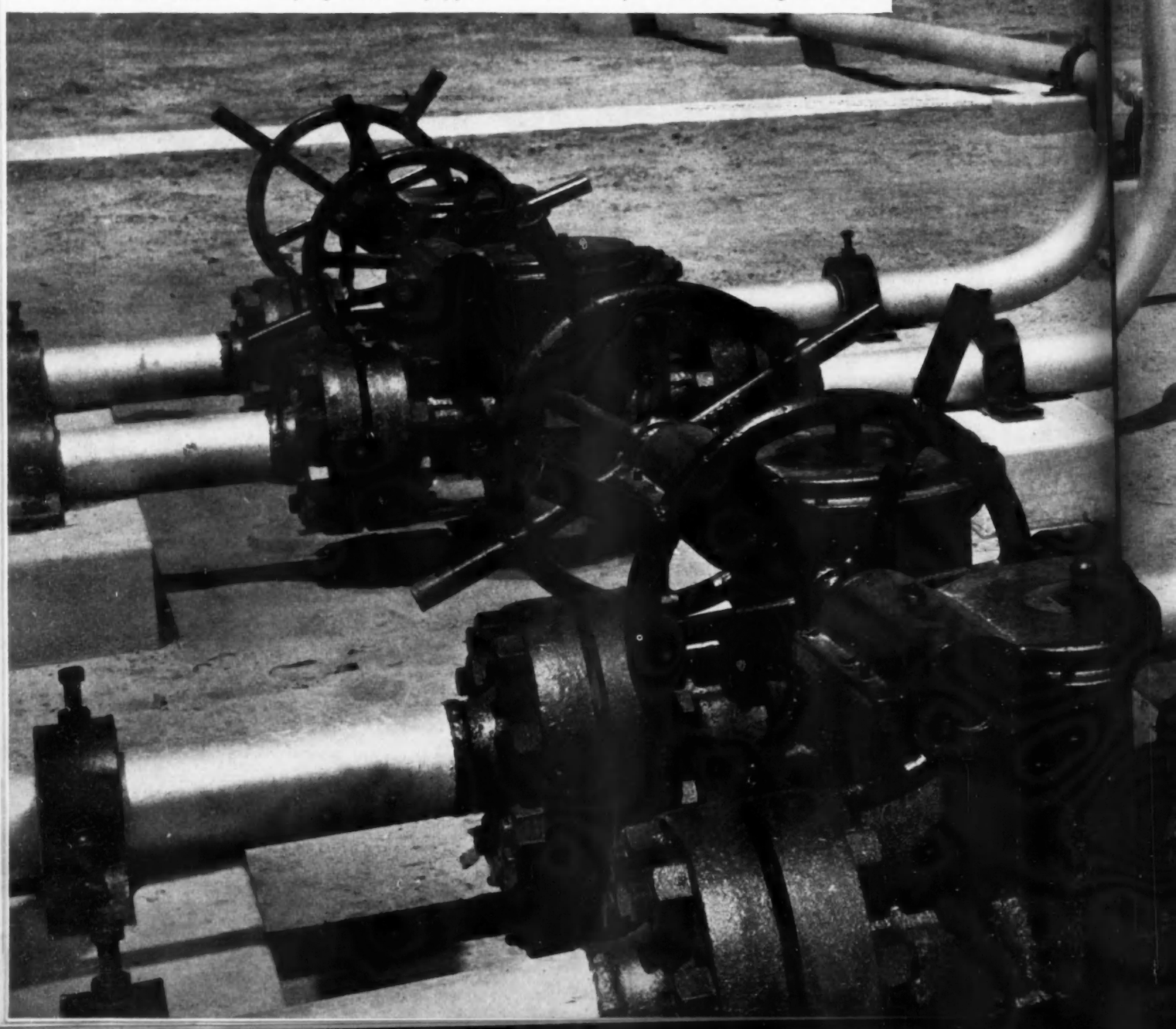

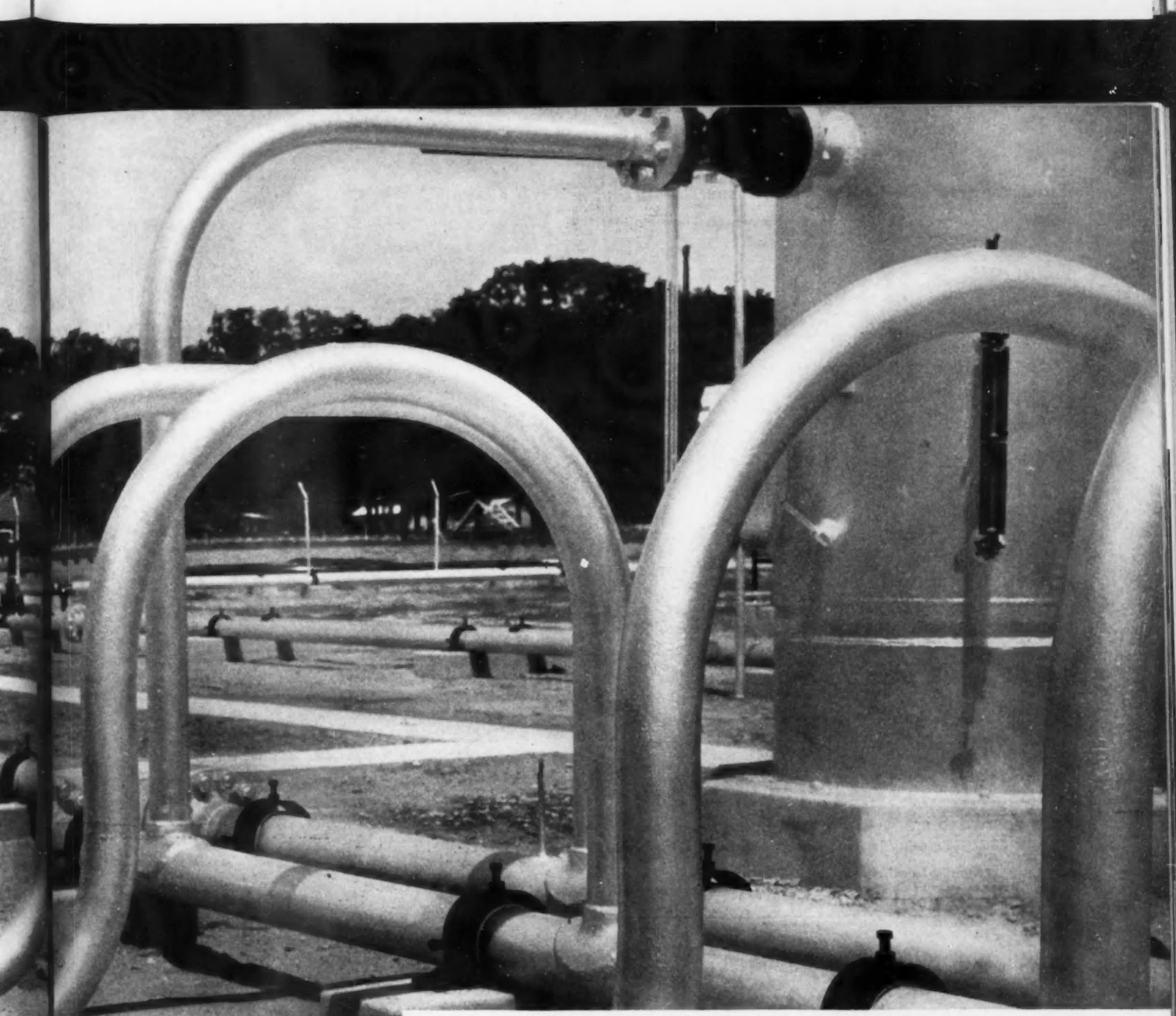

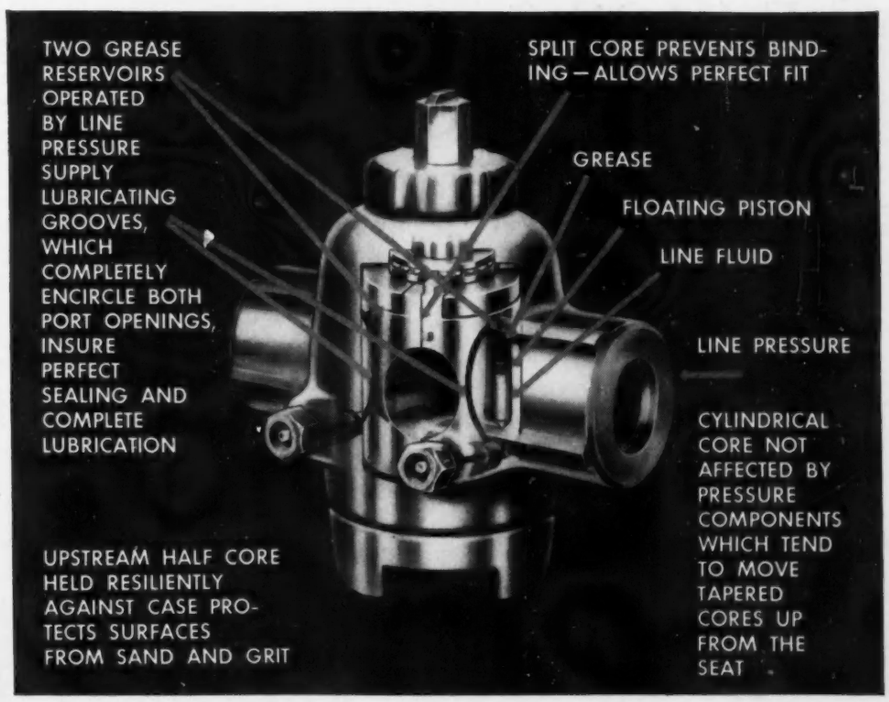
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Texas Co.'s State 2., 35-11s-8e, dr to 7157 ft in salt, top 7151 ft. Perforated csg 6303 to 6553 ft, 250 shots, came in Feb. 16, 1937, 32 bbls 14 hours, 34.6 gr oil. Feb. 17, made 32 bbls daily by heads on ⅝-in choke. Danciger Oil & Refineries has lease on 433 acres in Sections 26, 27-11s-8e. Drilling obligation 5500 ft. Sun opened new cap-rock sand 1150 ft, Kling & Walet 1, June, 1940, subsequently completed 2 good wells in this sand.

JEFFERSON ISLAND

Immediate area of Lake Pieigneur, centering around Section 58-12s-5e. **Discovery Means:** Elevation; rock salt found at 334 ft by Joe Jefferson, 1895, The Texas Co. outlined structure with reflection seismograph, 1937. **Discovery Well:** Several deep wells drilled by Jefferson Lake Oil Co. showed oil but first commercial producer was The Texas Co.'s Bayless & Jones (Jefferson Island Salt Mining Co.) 1, completed June 14, 1938, 500 bbls 37.5-gr oil daily from 8170 to 8210 ft. **Type Structure:** Dome; top cap rock 78 ft, top salt 80 ft. On east flank top salt 8683 ft. **Producing Formations:** Salt from salt plug and sulphur from cap rock over salt. Sulphur supply nearly exhausted. Oil produced from Miocene sands 7776-85 ft, 7827-37 ft, 8170-8210 ft. **Average Sand Thickness:** 40 ft. **Productive Acres:** 50; 20 developed. **Daily Production, July 1, 1940:** 1085 bbls from 5 wells. **Estimated Ultimate Recovery:** 2,500,000 bbls. **Production Through June, 1940:** 330,651 bbls. **Indicated Remaining Reserve:** 2,170,651 bbls. **Deepest Hole:** Phillips' Breaux 1, 41-12s-5e, had strong sw flow 9920 ft, abnd Sept., 1939. **Oil Outlet:** Barge. **Gravity Oil:** 7827-37 ft, 34.2; 8170 to 8210 ft, 37.5. **Rigs Running, July 1, 1940:** One. **Principal Leaseholders:** Jefferson Lake, Texas Co. Continental Oil Co. owns acreage on w flank. Phillips owned acreage on e and ne flank but dropped after dry hole. **Remarks:** Sulphur production ceased in 1936. The plant was moved to Texas. Several wells drilled by Jefferson Lake showed oil around 6576 ft and deeper.

NEW IBERIA

Sections 25, 26, 51, 53, 54, 56 and 71-12s-7e. **Means of Discovery:** Elevation, gas seepages, paraffin beds. **Discovery Well:** Gulf Refining Co. and New Iberia Oil Co.'s Bolliver 1, 124 bbls, from cap rock, 1072-1078 ft, 1917. **Structure:** Dome, top salt 805 ft. **Producing Formations:** Cap rock at 805-95 ft, 1078 ft; Pliocene-Miocene at 1900 ft, 2290-2315 ft, 2631 ft, and 3100 ft. Miocene at 3040-55 ft, 3336-44 ft, 3828 ft, 4102 ft, 4373 to 4454 ft; 4516 to 4607 ft; 4746 to 4780 ft; 4812 to 5000 ft; 5056 to 5147 ft; 5385 to 5401 ft; 5754-81 ft, 6215-40 ft, 7730-45 ft. Oligocene sands 5816 to 5966 ft; 6679 to 6728 ft; 6715 to 6732 ft; 8888-8916, 8930-9037 ft. **Average Sand Thickness:** 50 ft. **Productive Acres:** 250; 210 developed. **Daily Production, July 1, 1940:** 8042 bbls from 79 wells. **Estimated Ultimate Recovery:** 45,000,000 bbls. **Production Through June, 1940:** 20,369,692 bbls. **Indicated Remaining Reserve:** 24,630,308 bbls. **Deepest Hole:** The Texas Co.'s Con Soulin 2, 13-12s-7e, top salt 9935 ft, abnd, salt 9968 ft, April 1, 1939. **Oil Outlets:** Canal Oil Co.'s 6-in line to terminal. Standard of Louisiana's 8-in. Texas Pipe Line Co.'s 6-in. William Helis' 6-in to Bayou Teche, barge. **Range of Gravity:** 805 ft, 20.8; 3800 to 8900 ft, 21 to 33.1. **Rigs Running July 1, 1940:** Three. **Principal Leaseholders:** Canal Oil Co., Texas Co., Helis Oil Co., Harry Foditaos. **Remarks:** Was known as Little Bayou. Texas Co. discovered Oligocene production on nw flank from 6679-6700 ft, June, 1936. **Heaving Shale:** Below 7778 ft.

PATOUTVILLE*

Sections 35-12s-7e, 35-13s-8e. **Means of Discovery:** Reflection seismograph, Louisiana Land & Exploration Co., 1935. Skelly Oil Co., 1939. **Extent of Development:** Hamil & Smith's Baez 1, dry 7962 ft, June, 1937. **Principal Leaseholders:** J. E. Beaullieu and Hamil & Smith. This was farmout of Louisiana Land & Exploration Co. Skelly Oil Co. has acreage in 35-13s-8e. Louisiana Land & Exploration Co. filled in block in 1939. Sometimes referred to as Olivier. Skelly's block assembled by W. D. McCarter centering Sec 34-13s-7e, has 4000 acres, called Murphy area. Henry DeArman drilled Burleigh 1 to 3006 ft, abnd April, 1940.

SOUTH LAKE PEIGNEUR*

South of Lake Peigneur centering Sec 6-13s-5e. **Means of Discovery:** Geophysical, Woodley Petroleum Co., 1938-39. **Extent of Development.** Undrilled. **Principal Leaseholder:** Woodley.

SPANISH LAKE*

Centering Sec 17-11s-6e. **Means of Development:** Geophysics. **Extent of Development:** Undrilled. **Principal Leaseholders:** Atlatl Royalty Co., Felmont Oil Co., Humble Oil & Refining Co.

VERMILION BAY

In Vermilion Bay, centering Twnp 16s-6e. **Means of Discovery:** Reflection seismograph, Louisiana Land & Exploration Co., 1927. **Discovery Well:** The Texas Co.'s State B-3, July 23, 1939, 300 bbls 32-gr oil daily, 10/64-in choke, Miocene sds 10,241 ft. **Type of Structure:** Dome; top cap rock 787 ft, top salt 796 ft. Deep test logged salt around 6595 ft. **Producing Formations:** Miocene 10,131-241 ft. **Productive Acreage:** 100; 40 developed. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Daily Production at July 1, 1940:** 150 bbls from 1 well. **Cumulative Production at July 1, 1940:** 110,577 bbls. **Estimated Reserve:** 2,889,923 bbls. **Deepest Hole:** The Texas Co.'s State 1-B, dr 10,622 ft, abnd Feb., 1939. **Gravity:** 10,241 ft, 31.9. **Oil Outlet:** Barged by The Texas Co. to Texas. **Rigs Running July 1, 1940:** One. **Principal Leaseholder:** Texas Co. **Remarks:** Texas Co has drilled number of deep tests around flank of the dome. State B-2 blew out 9667 ft making gas and distillate, abnd.

WEEKS ISLAND†

Sections 23, 37, 38, 41, 42-14s-6e; 46, 47, 48, 49-14s-7e. **Means of Discovery:** Elevation above marshes; rock salt found by E. F. Myles, July 25, 1897, 276 ft. **Structure:** Salt dome; very little cap rock, top salt 100 ft. **Extent of Development:** Five tests, all dry. **Remarks:** Salt mined since 1902. Shell Petroleum Corp. has leases around dome. Gulf Oil Corp. has acreage on w side of dome.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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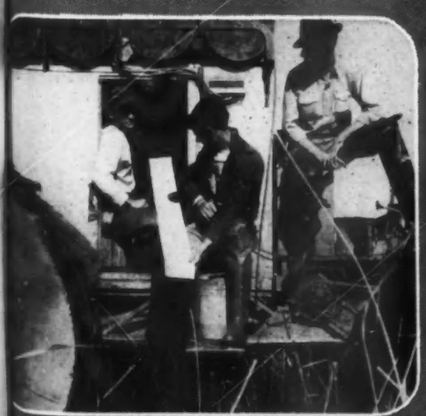

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IBERVILLE PARISH

BAYOU BLUE

Sections 66, 67, 72-9s-11e; 68, 74, 75-9s-10e. **Means of Discovery:** Seismograph, Calcasieu Oil Co., 1926. **Discovery Well:** Standard Oil Co. of La.'s Wilbert 3, 15 bbls 18.7-gr oil daily, 1928 ft, Sept., 1929. **Structure:** Dome, top cap rock 2792 ft, salt 2802 ft. **Producing Formations:** Miocene-Pliocene 1753, 1945 and 3696 ft; Miocene sands 5003-30 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 20. **Daily Production, July 1, 1940:** 175 bbls from 3 wells. **Estimated Ultimate Recovery:** 500,000 bbls. **Production Through June, 1940:** 131,172 bbls. **Indicated Remaining Reserve:** 368,828 bbls. **Deepest Hole:** Humble Oil & Refining Co.'s Schwing 3, 66-9s-11e, show oil 7483-8031 ft, abnd 8090 ft, Feb., 1939. **Oil Outlet:** Stored. **Range of Gravity:** 1753 to 3696 ft, 18 deg; 5003-30 ft, 31.6 deg. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Standard Oil Co., Humble, Superior Oil Co. **Remarks:** Heaving shale at 7360 ft, Superior's Schwing 7, 74-9s-10e, sw flank, discovered 5003-30 ft sd, Feb., 1940.

BAYOU DES GLAISE

Irregular Sections 78, 79, 85, 86-8s-8e. **Means of Discovery:** Refraction seismograph Calcasieu Oil Co., 1926. **Structure:** Dome, top cap rock 3478 ft, top salt 3697 ft. Seven tests drilled prior to discovery verified the structure. **Discovery Well:** Humble Oil & Refining Co.'s Wilberts 2-B, 78-8s-2e flowed 345 bbls pipe-line oil daily through 3/16-in choke, tbg/csg pressure 1400/2500 lbs, from 7 ft net section 8647-8731 ft. **Average Sand Thickness:** At Sept. 10, 1940, the field had not been confirmed; the second test, Humble's Wilberts 3-B flowing from discovery sands at 8648-58 ft and 8660-731 ft, but died and was drilled to 9100 ft, where drill pipe stuck and hole was abnd. Wilberts 4-B will be a directional hole drilled from same location as 2-B and 3-B. **Estimated Ultimate Recovery:** 1,500,000 bbls. **Estimated Productive Acreage:** 100, 20 developed. **Daily Production, July 1, 1940:** 125 bbls from 1 well. **Cumulative Production, July 1, 1940:** 3750 bbls. **Estimated Reserve:** 1,496,250 bbls. **Deepest Hole:** Wilberts 3-B, dr 9100 ft, stuck drill pipe, abnd Aug., 1940. **Principal Leaseholders:** Humble, Standard Oil of La., Union Sulphur Co.

BAYOU SORRELS*

Centering around Sections 9, 15, 95, 96-10s-10e, also in 11s-11e. **Means of Discovery:** Reflection seismograph, The California Co., 1937-38. Amerada Pet. Corp., reflection seismograph, 1939. **Extent of Development:** California Co.'s Schwing Lbr. Co. 1, hot sw flow 11,388 ft, abnd April, 1939. **Principal Leaseholders:** The California Co. (19,000 acres), Shell Oil Co. Amerada took over California Co. blk for shooting, with agreement to drill if picture justified.

CHOCTAW

Sections 52, 53-9s-11e, 29-8s-11e. **Means of Discovery:** Refraction seismograph, Gulf Refining Co., 1926. **Discovery Well:** Standard Oil Co. of La.'s Gay 1, Section 52, 500 bbls 29-gr oil daily, ⅛-in choke, 4355 ft, June 22, 1931. **Structure:** Dome, top cap rock 415 ft, salt 667 ft. **Producing Formations:** Miocene sands, 2435 to 2894 ft, 4129 to 4353 ft, 4475 ft, 4515 ft to 5481 ft, 4681 to 4694 ft, 4800-33 ft, 5413 to 5423 ft; Oligocene sands 8220-74 ft, 8376-96 ft, 8540-52 ft. **Average Sand Thickness:** 45 ft. **Productive Acres:** 150; 75 developed. **Daily Production, July 1, 1940:** 1250 bbls from 13 wells. **Estimated Ultimate Recovery:** 7,500,000 bbls. **Production Through June, 1940:** 2,842,156 bbls. **Indicated Remaining Reserve:** 4,657,844 bbls. **Deepest Hole:** Louisiana Crusader Oil Co.'s Schwing 1, n flank, 29-8s-11e, cored Oligocene sand showing oil 8633-37 ft; 8845-48 ft; 8965-69 ft; well tried to blow out 10¾-in surface csg collapsed, well was abnd March, 1938. **Oil Outlet:** Standard's 4-in. **Range of Gravity:** 26-29, Deep sand 37.4, 38.9, 29. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Standard and Gulf Oil Corp. jointly; with sulphur rights subleased to Texas Gulf Sulphur Co. **Remarks:** Formerly called Bayou Choctaw; Grosse Tete, Solvay Chemical Co. at Baton Rouge takes salt water from field. Louisiana Crusader Oil Co. discovered Oligocene production ¾-mi n of field June 1, 1938.

INDIAN VILLAGE*

Sections 37, 47-9s-5e, sw Bayou Choctaw. **Means of Discovery:** Torsion balance, Gulf Refining Co.; reflection seismograph, Amerada Petroleum Corp., 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Amerada, Phillips Petroleum Co., Barnsdall Oil Co., Cities Service Oil Co., Shell Oil Co. (985 acres centering 23-9s-11e).

NORTHEAST BAYOU DES GLAISE

Centering e½ 8s-9e. **Means of Discovery:** Reflection seismograph, Shell Oil Co. **Extent of Development:** Undrilled. **Principal Lease-Holder:** Shell (9000 acres).

PLAQUEMINES*

Around town of Plaquemines, Twnps 8, 9s-12, 13e. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholder:** Humble.

RAMAH*

Sections 59-7s-9e, 74-7s-10e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934. **Extent of Development:** Humble's Iberville Loan Co. 1, 74-7s-10e, show gas, sw 9747-57 ft, abnd 10,025 ft, May, 1939. **Principal Leaseholders:** Humble, Barnsdall Oil Co., Sun Oil Co. **Remarks:** Barnsdall's original work failed to indicate structure. Humble, working from Bayou Maringouin down to Rosedale and Ramah, reported highs in Sections 66-7s-9e and 59-9s-7e.

ST. GABRIEL*

On both sides of Mississippi River, e of Plaquemines and west of St. Gabriel, centering Sections 12-9s-13e, 13-9s-1e, 18-9s-2e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1936 and 1937. There is supposed to be 400-ft of closure in this structure. **Extent of Development:** Shell's Natalbany Lbr. Co. 1, 18-9s-2e, dr 10,542 ft, dst 9015-52 ft, gas blow, dst 9050-53 ft, rec 6 stands oil-cut mud, acidized, swabbed ⅛ oil and ½ water, abnd June, 1939. Het top 8944 ft, Marginulina 9402 ft. Natalbany 2, 19-9s-2e, show oil 9152-239 ft, tried blowout 9267-70 ft, abnd 9536 ft, Nov., 1939. **Principal Leaseholder:** Shell.

SOUTH WHITE CASTLE*

South of the town of White Castle, centering Section 3, 10-11s-13e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1937. Geophysics is reported to have shown 800 feet of closure. **Extent of Development:** Housh & Thompson's Folse 1, 40-11s-13e, cored sd oil odor, 10,323-335 ft, 10,372-376 ft, stuck drill stem 10,823 ft, abnd, Oct., 1939. Falcon-Seaboard Dr. Co.'s Folse 1, 42-11s-13e, top Het 10,193 ft, abnd 11,505 ft, July, 1940. **Principal Leaseholders:** Shell, Gulf Refining Corp., Wm. Helis. **Remarks:** Frequently called Samstown.

SOUTHEAST BAYOU DES GLAISE*

Centering Sec 41-9s-9e. **Means of Discovery:** Reflection seismograph, Amerada Petroleum Corp., 1939. **Extent of Development:** Undrilled. **Principal Leaseholder:** Amerada.

SOUTHEAST PLAQUEMINES*

On Mississippi River, 3 mi se Plaquemines, Twps, 9 and 10s, R 12 and 13e. **Means of Discovery:** Reflection seismograph, Hoard Exploration Co. for Superior Oil Producing Co., 1934; reflection, Shell Oil Co., 1935; refraction seismograph, Gulf Refining Co.; gravimeter, Trinity Petroleum Co. **Principal Leaseholder:** Trinity Petroleum Co.

WHITE CASTLE

Sections 1, 2, 3, 8, 9 and 12-11s-12e. **Means of Discovery:** Refraction seismograph, Shell Oil Co., 1926. **Discovery Well:** Shell's Wilbert 3, 75 bbls 21-gr oil daily, 5836 ft, Oct., 1929. **Structure:** Dome, top cap rock 1810 ft, salt 2313 ft. **Producing Formations:** Miocene and Oligocene 5163 to 5175 ft, 5346 to 5430 ft, 5700 to 5836 ft, 6436 to 6599 ft, 6780 to 6795 ft, 8740-50 ft, 8893 to 8908 ft. **Average Sand Thickness:** 33 ft. **Productive Acres:** 260; 180 developed. **Daily Production, July 1, 1940:** 2200 bbls from 12 wells. **Estimated Ultimate Recovery:** 6,500,000 bbls. **Production Through June, 1940:** 3,812,342 bbls. **Indicated Remaining Reserve:** 2,687,658 bbls. **Deepest Hole:** Shell's White Castle Shingle 4, 12-11s-12e, 7-in, 8494 ft, sand showing oil 8508 to 8514 ft, drilled to 9127 ft, dry, June, 1937. **Oil Outlet:** Shell Pipe Line Co.'s 4-in, then barge. **Range of Gravity:** 5346 ft, 32.6; 5836 ft, 21; 6453 ft, 27.4; 8740-50 ft, 46. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholder:** Shell.

JEFFERSON PARISH

BARATARIA

South of New Orleans, centering Sec 2-16s-23e. **Means of Discovery:** Seismograph, Humble Oil & Refining Co., 1928; later worked with torsion balance, Gulf Refining Co. worked in the area in 1935. California Co. worked with reflection seismograph in 1937 and 1938. Louisiana Land & Exploration Co. did geophysical work in the area. **Discovery Well:** California Co.'s Adams-Rutley 1, Nov. 2, 1939, 37 bbls 37.3-gr oil per hour, Miocene 8204-14 ft, ¼-in choke, tp 1265 lbs; csg 1300 lbs. **Type Structure:** Believed deep dome. **Producing Formation:** Miocene 8195-8214 ft, 8765-75 ft. **Average Sand Thickness:** 11 ft. **Productive Acreage:** 200; 80 developed. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Daily Production, July 1, 1940:** 976 bbls from 5 wells. **Cumulative Production, July 1, 1940:** 121,516 bbls. **Estimated Reserve:** 4,848,484 bbls. **Deepest Hole:** Discovery drilled to 12,222 ft, pb and comp. **Oil Outlets:** Barged to Westwego, Sun Oil Co. storage. **Range of Gravity:** 8204-14 ft, 37.3. **Principal Leaseholders:** California Co., Gulf Refining Co.

BAY DES ILLETTES*

Centering Caminada and Cheniere Bay and Bayou Des Illettes and Grant Pass, 21-22s-24e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1938-39. **Extent of Development:** Shell drilled State 1, Bay Des Illettes, 27-20s-29e, and at Sept. 10, 1940, was near 10,000 ft, no shows. **Principal Leaseholders:** Tide Water Associated Oil Co., Shell.

CHURCHILL FARMS*

On St. Charles-Jefferson Parish line, centering Section 2-14s-22e. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1937. **Extent of Development:** Undrilled. **Principal Leaseholder:** Gulf.

GRETNA*

Southwest of Gretna in ne 13s-23e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1938-39. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, Louisiana Land & Exploration Co.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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LAFITTE

6 mi se Lafitte. Sections 9, 16, 17, 19, 20, 21, 28, 29, and 30-17s-24e. **Means of Discovery:** Reflection seismograph, The Texas Co., 1934. Geophysical, Louisiana Land & Exploration Co. **Discovery Well:** Texas Co.'s Bayou St. Denis 1, 1100 bbls 34.9-gr oil, 9572 ft, May 16, 1935. **Structure:** Deep dome. **Producing Formations:** Miocene and Oligocene from 8035 to 8090 ft, 9320 to 9476 ft, 9520 to 9640 ft, 9700-9800 ft, 9912 to 9950 ft, 9950 to 10,022 ft, 10,036 to 10,110 ft, 10,210 to 10,240 ft. Discovery well had over dozen showings of oil from 5137 to 9572 ft. One well blew out at 12,069 ft. See deepest hole. Sidewall cores at 3534, 3540 and 3546 ft had show oil. **Average Sand Thickness:** 80 ft. **Productive Acres:** 2625; 1745 developed. **Daily Production, July 1, 1940:** 12,975 bbls from 46 wells. **Estimated Ultimate Recovery:** 140,000,000 bbls. **Production Through June, 1940:** 20,369,123 bbls. **Indicated Remaining Reserve:** 119,630,877 bbls. **Deepest Hole:** The Texas Co.'s State Bayou Norman 1, encountered oil sand 12,020 ft, tried to blow out 12,069 ft, stuck drill stem 12,115 ft, shot drill stem, pb and perforated 9530-9630 ft, made producer Nov., 1937. **Oil Outlets:** Texas Pipe Line Co. 6-in, 8-in, 10-in gas line to Lake Washington. **Range of Gravity:** 9360 to 10,240 ft, 33.6 to 42. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholder:** Texas Co. **Remarks:** One of the deepest commercial producing fields in the Gulf Coast and one of the deepest in the world. Also known as Bayou St. Denis. First field in world to produce oil below 10,000 ft. Miocene sands from 5137 down will be tested later. One well is dr to each 20 acres. The Texas Co. has gasoline plant in field. Dry gas is piped to Lake Washington. Workover technique in these deep wells involved first use of gun perforator to loosen casing for pulling.

LAFOURCHE BASIN DISTRICT*

North part 20s-24e, 19s-24e. **Means of Discovery:** Reflection seismograph, The Texas Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholder:** Texas Co.

JEFFERSON DAVIS PARISH

CHINA

Southwest Elton gas field, centering Sec 36-7s-4w. **Means of Discovery:** Reflection seismograph, Union Sulphur Co., 1938. **Discovery Well:** Union Sulphur's Calcasieu National Bank 1, 36-7s-4w, on Sept. 6, 1940, gauged 33 bbls 51-gr gas-distillate daily through ⅛-in bottom-hole choke, needle valve top choke, tubing pressure 3100 pounds, from 9300-04 ft. With screen at 9494 ft, the well made strong flow dry gas, then 100 percent sw. Completion may not be in this sand. **Type of Structure:** Deep dome. **Productive Acreage:** No estimate. **Producing Formations:** Marginulina at 9300-04 ft. **Oil Outlet:** None on Sept. 10, 1940. **Gravity:** 51, gas-distillate. **Principal Leaseholder:** Union Sulphur. **Remarks:** Before discovery, Union Sulphur drilled Tietje 1, 36-7s-4w, swabbed oil, gas and sw 7582-96 ft, abnd 1939; Tietje 2, abnd 9453 ft.

FENTON*

East of Fenton, centering Section 36-7s-5w. **Means of Discovery:** Old refraction high. Reflection seismograph, Pure Oil Co., Gulf Oil Corp., 1935. Tide Water Associated Oil Co., Barnsdall Oil Co., Shell Oil Co., Gulf Oil Corp. and Felmont Oil Corp., worked in the area with geophysical instruments. Union Sulphur Co. worked with reflection seismograph, 1939. **Extent of Development:** Louisiana Crusader Oil Co.'s Langley 1, gas odor 5714 ft and sw. Cored gas and sw sands 7361 to 7412 ft, hole off 7 degrees, pb to 6800 ft, dr to 7602 ft, dst 7359-64 ft showed gas, mud and sw. Top gas sand 7892 ft, showed gas 8016-21 ft, 8170-82 ft, 8955-75 ft, ran electric log to 8989 ft, well tried to blow out, cored to 9045 ft, pb and perforated 8957-65 ft, showed sw, perforated 7358-64 ft, showed sw, pb and perforated 6540-52 ft, showed sw, td 9045 ft, abnd July 12, 1937. Union Sulphur Co.'s Liggett 1, 36-7s-5w topped Het 6420 ft, Marg 6745 ft, logged sw sds 7306-16 ft, abnd 8392 ft, Aug., 1938. **Remarks:** All leases in this area were at one time allowed to lapse. Leaseholders in the general area include Union Sulphur Co., T. F. Hodges, Gulf Ref. Co., M. M. Travis. See Lock-Moore.

HAYES*

4 mi se Bell City on Calcasieu-Jefferson Davis line, centering Sections 16, 19, 20, 27-11s-5w, and 28, 29, 32, 33-10s-5w. **Means of Discovery:** Reflection seismograph, torsion balance, Humble Oil & Refining Co., Gulf Refining Co., 1929; Stanolind Oil & Gas Co., Shell Oil Co., 1935. **Extent of Development:** Gulf's Sweet Lake L&O Co. 1, 29-10s-5w, abnd 8900 ft, 1934. Shell's Lacassine Irrigation Co. 1, 20-11s-5w, 9344 ft, tried to blow out, showed 1000-lb pressure on chokes, dr 9721 ft in shale, at 9802 ft well blew out and made an estimated 50,000 bbls sw, mud and gas daily. Stuck drill stem and fished out 8100 ft, set 7-in csg at 9523 ft for protection, dr 9793 ft, showed sw, had considerable trouble with gas at 9824 ft, used over 3500 sacks of special drilling mud in three days. Hole was pb to 9375 ft after dr to 9844 ft and showed sw, pb to 9143 ft, showed sw, abnd 9844 ft, July 26, 1937. Stanolind Oil & Gas Co.'s United Life Insurance 1, 16-11s-5w, tried to blow out and stuck drill pipe at 9942 ft, showed gas and sw, abnd April, 1937. Housh & Thompson's Lacassine 1, 29-11s-5w, abnd 9505 ft, Nov., 1939. Had slight show oil up hole. Continental's Niblett's Farms 1, 1-11s-5w, March 27, 1940, flowed 12 bbls 42-gr oil hourly through 3/16-inch choke from 11,604-624 ft, was accredited discovery well for new field. Sw encroachment forced reworking, deepened to 11,748 ft, abnd July, 1940. **Principal Leaseholders:** Shell, Stanolind, Gulf. In Calcasieu Parish, w of Shell's block, Humble, Skelly, Gulf, and Texas Co. have protection acreage. **Remarks:** Geophysical work has shown various results in the trend along Calcasieu-Jefferson Davis line.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

LOCK-MOORE*

East of Heckner, centering Sections 29, 32-7s-6w. **Means of Discovery:** Reflection seismograph, Superior Oil Producing Co., 1935; geophysics, Gulf Refining Co., 1934; Humble Oil & Refining Co., 1935. **Extent of Development:** J. K. Lewis' Lock-Moore 1, 32-7s-6w, drilled to 6046 ft, stuck drill stem, plugged back, encountered considerable trouble, redrilled to 7095 ft, cored dry sand 6666-71 ft, run electric log, abnd April, 1936. Top Heterostegina 6195 ft. Bleakie's Lock-Moore Lbr. Co. 1, topped Het 5972 ft, abnd 7510 ft, July, 1939. **Principal Leaseholders:** Superior, J. K. Lewis. Superior farmed block to J. K. Lewis who sold spreads to Tide Water Associated Oil Co., Stanolind, and Humble. **Remarks:** Sometimes referred to as Fenton.

NIBLETTS FARMS*

Sections 1, 12-11s-5w; 6, 7-11s-4w. **Means of Discovery:** Torsion balance, Louisiana Gulf Oil & Sulphur Co., 1930. Reflection seismograph, Stanolind Oil & Gas Co., 1935. **Remarks:** Continental selected 2 blocks Niblett's Farms acreage, 1st blk, 3000 acres, tested by Niblett's Farms 1, temporary producer at Hayes (which see). Blk 2 is at Thornhill on s flank S. Roanoke fld.

NORTHWEST LAKE ARTHUR*

Northwest of Lake Arthur and southeast of South Roanoke gas field, centering Section 31-10s-3w. **Means of Discovery:** Reflection seismograph, Continental Oil Co., 1937. **Extent of Development:** Continental Oil Co.'s Fay 1, 18⅝-in, 183 ft; 13⅜-in, 1999 ft; gas show 10,097-10,108 ft, showed 2 ohms, blew out at 10,935 ft, bridged over stuck drill stem, showed 2080 pounds on dst in 15 minutes, shot at 5665 ft, abnd Jan., 1938. Top Marginulina at 10,673 ft. **Principal Leaseholders:** Continental, H. M. Naylor, M. Stefferson.

ROANOKE

Centering around S½ Section 1, SEc Section 2, N½ Section 11, N½ Section 12, NW 11-9s-4w, N½ Section 14-9s-4w. **Means of Discovery:** Surface indication; torsion balance minimum and seismograph, Vacuum Oil Co., 1928. Reflection seismograph showed definite high. **Discovery Well:** Shell Oil Co.'s Kratzer 1, 12-9s-4w, 50 bbls 37-gr oil per hour through 18/64-in choke from Marginulina at 8665-8692 ft, May 24, 1934. **Structure:** Apparently deep dome, although no cap rock or salt reached. Field has several "horseshoe" faults. **Producing Formations:** Marginulina zone of Oligocene, 6264-68 ft, 7597 ft, 7778 to 7934 ft, 8644 to 8730 ft; oil and gas sands 8810-56 ft. **Average Sand Thickness:** 55 ft. **Productive Acres:** 900; 900 developed. **Daily Production, July 1, 1940:** 1465 bbls from 23 wells. **Estimated Ultimate Recovery:** 13,750,000 bbls. **Production Through June, 1940:** 8,058,386 bbls. **Indicated Remaining Reserve:** 5,691,614 bbls. **Deepest Hole:** Shell's Jarnigan 1, e offset to the discovery well, quit at 10,750 ft, Sept., 1935; tried to blow out 9999½ ft. **Oil Outlets:** Shell Pipe Line Co., 6-in; Standard of Louisiana's 6-in. **Range of Gravity:** 34-45. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Shell, Humble Oil & Refining Co., John and Aston Glassel, Gulf Oil Corp. **Remarks:** One well is dr to each 18 acres.

SOUTH ELTON

South of Elton, centering around Sections 27, 28-7s-3w. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., Amerada Petroleum Corp., 1935. Humble Oil & Refining Co, and other companies have worked with geophysical instruments. **Discovery Well:** Amerada-Stanolind's Calcasieu National Bank 1-B encountered gas sands at 9137-39 ft, blew out, abnd March, 1937. Calcasieu National Bank 2-B, 2000 ft w of 1-B, 128.64 bbls 52-gr distillate and 3,800,000 ft gas daily, ¼-in choke, Aug. 27, 1937, 8965 ft. **Structure:** Dome. **Producing Formation:** Oligocene (Chickasawhay) 8955-65 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 100; 10 developed. **Daily Production, July 1, 1940:** 85 bbls from 1 well. **Estimated Ultimate Recovery:** 3,250,000 bbls. **Production Through June, 1940:** 28,305 bbls. **Indicated Remaining Reserve:** 3,221,695 bbls. **Deepest Hole:** Amerada-Stanolind's Calcasieu National Bank 2-B, 27-7s-3w, tried to blow out 9154 ft, set 9⅝-in, 8647 ft; Cockfield 12,200 ft, set 7-in 9230 ft; dr to 13,210 ft; made test up hole, was abnd 7200 ft, June, 1938. First well in South Louisiana to dr to 13,000 ft. **Oil Outlet:** Continental's 3½-in. **Gravity Oil:** 52. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Stanolind, Amerada, Gulf, Sun, Barnsdall, Magnolia Petroleum Co., Tide Water Associated Oil Co. **Remarks:** South Elton was the first field discovered on the trend play which started after the discovery of Tepetate, Acadia Parish.

SOUTH JENNINGS

South of Jennings, centering around Sections 15, 16-10s-3w. **Means of Discovery:** Reflection seismograph and torsion balance, Shell Oil Co., 1934; Stanolind Oil & Gas Co., 1934-35. **Discovery Well:** Stanolind's Calcasieu National Bank 1, Nov. 12, 1936, 4,000,000 ft gas daily and 5 bbls 70-gr distillate per hour at 8638-48 ft, ½-in choke. **Structure:** Deep dome. **Producing Formations:** Oligocene sands, 8638-48 ft, 9573-18 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 500, 100 developed. **Daily Production, July 1, 1940:** Shut in. **Estimated Ultimate Recovery:** 500,000 bbls. **Production Through June, 1940:** 63,888 bbls. **Indicated Remaining Reserve:** 436,112 bbls. **Deepest Hole:** Stanolind's Calcasieu National Bank 1, 15-10s-3w, drilled to 9944 ft, pb and was discovery well. **Oil Outlet:** United Gas Pipe Line 6-in (gas). Oil sold locally. **Gravity Oil:** 8638 to 8648 ft, 52 to 70; 9313-18 ft, 48. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Stanolind, Loffland Brothers, Gulf Oil Corp.

SOUTH ROANOKE

South of Roanoke, centering around Sections 23, 25, 31, 36-10s-4w. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1935. **Discovery Well:** Shell's Sturdevant 1, April 7, 1937, 1 bbl 52-gr distillate per hr, 2,720,000 ft gas daily, from perforations at 8540-50 ft. Later worked over and made small amount of 47-gr oil and gas after perforating at 8460-75 ft. **Type Structure:** Deep dome but no domal material has been encountered. **Pro-**

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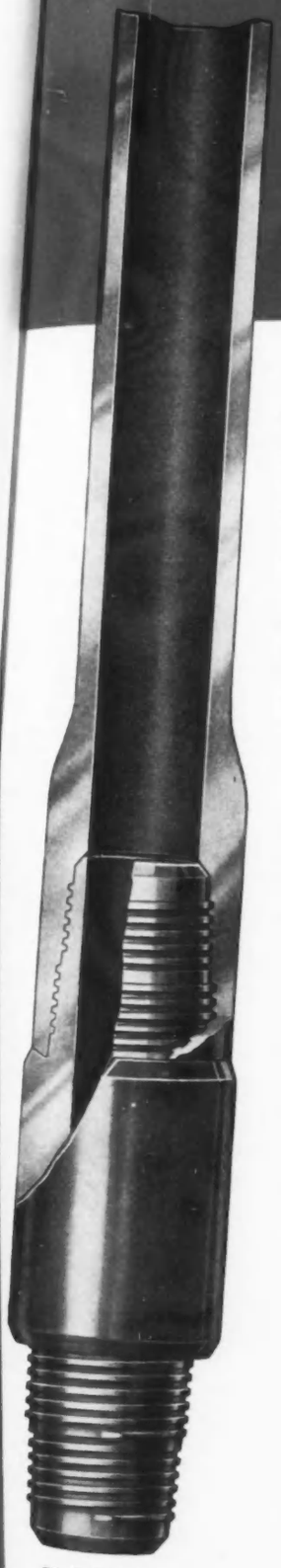

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14,051′ Continental Oil Co., KCL D-2, Strand, Kern Co., Calif., 4½″ & 3½″ Hydril Joints.
14,018′ Superior Oil Co., Helbling No. 1, Rio Bravo, Kern County, Calif., 4½″ and 3½″ Hydril Joints.
13,957′ Shell Oil Co., KCL No. B-87-4, Canal, Kern County, Calif., 4½″ Hydril Joints.
13,873′ Shell Oil Co., KCL 2-A 52-13, San Emigdio Ranch, Kern Co., Calif., 4½″ Hydril Joints.
13,728′ Union Producing Co., Minnie Brown No. 1, Agua Dulce, Nuecus County, Texas. No Hydril Joints used.
13,716′ Standard Oil Co. of California, KCL No. 8-B-1, Wasco, Kern County, Calif., 3½″ Hydril Joints.
13,644′ Continental Oil Co., KCL No. A-3-8, Wasco, Kern County, Calif., 5-9/16″ and 3½″ Hydril Joints.
13,538′ Standard Oil Co. of Calif., Elrich Community No. 1, Greeley, Kern County, Calif., 4½″ Hydril Joints.
13,409′ Fohs Oil Co., Buckley Bourg No. 1, West Dulca, Terrebonne Parish, La., 4½″ and 3½″ Hydril Joints.
13,333′ Fohs Oil Co., State Bay Baptiste No. 1, Houma, Terrebonne Parish, La., 4½″ and 3½″ Hydril Joints.
13,210′ Amerada Petroleum Corp., and Stanolind Oil & Gas Co., Calcasieu National Bank No. 3-B, Jefferson Parish, La., 4½″ Hydril Joints.
13,158′ Continental Oil Company, KCL A-5-8, Wasco, Kern County, Calif., combination string ½ equipped with Hydril Joints.
13,153′ Continental Oil Co., KCL A-4, Wasco, Kern County, Calif., 5-9/16″, 4½″, 3½″ Hydril Joints.
13,139′ Continental Oil Company, Meyer 1, Wasco, Kern County, Calif., no Hydril Joints.
13,139′ Standard Oil Co. of Calif., Mush Rush No. 1, Wasco, Kern Co., Calif., no Hydril Joints.
13,135′ Standard Oil Co. of Calif., KCL No. 8-B-2, Wasco, Kern County, Calif., 4½″ and 3½″ Hydril Joints.
13,135′ Standard Oil Co. of Calif., Mush Rush No. 4, Wasco, Kern County, Calif., 4½″ Hydril Joints.
13,131′ Geo. F. Getty Co., Jannssen No. 1, Wasco, Kern Co., Calif., 4½″ & 3½″ Hydril Joints.
13,131′ Superior Oil Co., KCL-12, Sec. 3, Twp. 30, R. 26, Kern Co., Calif., 4½″ Hydril Joints.
13,130′ Standard Oil Co. of Calif., Mush Rush No. 5, Wasco, Kern County, Calif., 4½″ Hydril Joints.
13,130′ Standard Oil Co. of Calif., Mush Rush No. 3, Wasco, Kern County, Calif., 4½″ Hydril Joints.
13,124′ Standard Oil Co. of Calif., Mush Rush No. 2, Wasco, Kern County, Calif., 4½″ and 3½″ Hydril Joints.
13,064′ Continental Oil Co. and Seaboard Oil Co., KCL C-1, Wasco, Kern County, Calif., 4½″ and 3½″ Hydril Joints.

(Source of Data: California Oil World; Oil Weekly)

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HYDRIL

ducing Formations: Marginulina of Oligocene 8460-75 ft; 8540-50 ft, 9865-80 ft, 10,108-120 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 2000; 700 developed. **Daily Production, July 1, 1940:** 1300 bbls from 8 wells. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through June, 1940:** 551,285 bbls. **Indicated Remaining Reserve:** 5,448,715 bbls. **Deepest Hole:** Continental's Sturdivant 1, 36-10s-4w, set 9⅝-in csg at 9825 ft, dr to 12,088 ft, pb, comp 9880 ft, Oct., 1938, disc new sd, found Marginulina to 12,088 ft. **Oil Outlet:** Trucks. **Gravity Oil:** 47 gravity 8460 and 8550 ft; 9865-80 ft, 52.5; 10,108-120 ft, 52.4 deg. **Rigs Running, July 1, 1940:** One. **Principal Leaseholders:** Shell Union Sulphur Co. **Remarks:** Shell farmed out acreage to Union Sulphur Co. and to Continental. Union Sulphur's T. R. S. Farms 2, Sec 23-10s-4w, disc 10,120-ft sd, Jan, 1939.

SOUTH WELSH*

Sections 36-9s-5w, 31-9s-4w, 1-10s-5w, 6-10s-4w. **Means of Discovery:** Seismograph, Pure Oil Co., 1929; Stanolind Oil & Gas Co., 1937. **Extent of Development:** Pure's Day 1, dry 5216 ft, 1930. Stanolind's Conover 1 and 2, were drilled w of Welsh. Stanolind's Pousson 1, 28-9s-5w, abnd 7020 ft, Aug., 1938; Conover 2, 20-9s-5w, abnd 7350 ft, Aug., 1938. Buckley's Calcasieu National Bank 1, 34-9s-5w, abnd 6545 ft. **Principal Leaseholders:** Stanolind, Shell, Gulf, Continental, Humble.

WELSH

Sections 21, 22, 27, 28-9s-5w. **Means of Discovery:** Elevation, gas seep. **Discovery Well:** Welsh Home Dev. & Oil Co.'s No. 2, 1902, blew out, 1001 ft. Rio Bravo Oil Co.'s No. 1, first oil, Jan., 1903, at 1012 ft. **Structure:** Regarded deep dome, top salt 6315 ft. **Producing Formations:** Pli-Miocene sands at 1000 to 1300 and 1783 to 3000 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 50. **Daily Production, July 1, 1940:** 13 bbls from 40 wells. **Estimated Ultimate Recovery:** 650,000 bbls. **Production Through June, 1940:** 595,227 bbls. **Indicated Remaining Reserve:** 54,773 bbls. **Deepest Hole:** Went to Oligocene at 7410 ft. **Oil Outlets:** Truck and rail. **Range of Gravity:** 18-21. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholders:** Stanolind Oil & Gas Co., Tide Water Associated Oil Co. **Remarks:** Stanolind's Erwin-Bishop 3-B, 28-9s-5w, established area as salt dome, Aug., 1939. In Aug., 1940, Chessman & Cranston's Bourgeois 1, s flank, made dist from 5600 ft sand, dst 5301-16 ft, rec gas-dist under 735 lbs pressure. Operators preparing to comp on Sept. 10, 1940.

WOODLAWN

Two mi e of Woodlawn, centering around Section 12-9s-8w. **Means of Discovery:** Geophysics, Union Sulphur Co., 1937. Magnolia Petroleum Co., torsion balance and reflection seismograph, 1934. Strake Petroleum Corp. also worked in the area. **Discovery Well:** Union Sulphur Co.'s Calcasieu National Bank 1, Feb. 13, 1938; 43 bbls 51-gr distillate and 2,500,000 ft gas daily, 12/64-in bottom hole choke and 33/64-in top choke at 8288 ft. First oil well, Union Sulphur Co.'s Calcasieu National Bank 2, 12-9s-8w, April 24, 1938, 590 bbls 36.7-gr oil daily, ¼-in ch, 8898 ft. **Structure:** Dome. **Producing Formations:** Oligocene sands 8112-16 ft, 8286 to 8288 ft; 8894 to 8898 ft; 8906-08 ft; 9296-9300 ft; 9376-93 ft; 9675-83 ft. **Average Sand Thickness:** 8 ft. **Productive Acres:** 250; 120 developed. **Daily Production, July 1, 1940:** 2290 bbls from 15 wells. **Estimated Ultimate Recovery:** 8,700,000 bbls. **Production Through June, 1940:** 1,058,141 bbls. **Indicated Remaining Reserve:** 7,641,859 bbls. **Deepest Hole:** Union Sulphur's Hebert 1, dr to 10,194 ft, pb and comp 9484 ft, Dec., 1939. **Oil Outlet:** Union Sulphur's 6-in. **Gravity Oil:** 8112-16 ft, 37.8 deg; 8286 to 8288 ft, 51; 8894 to 8898 ft, 36.7; 9296 ft, 32.6; 9675-83 ft, 35; 9484 ft, 49. **Rigs Running, July 1, 1940:** One. **Principal Leaseholders:** Union Sulphur Co., Woodlawn Oil Co. **Remarks:** First development in the area was Strake Petroleum Co.'s Pettigrew 1, dry 7348 ft, March, 1934; Calcasieu National Bank 1, odor oil 8080-91 ft, sand showing oil, 7331-35 ft, quit 8505 ft, 1935. Same operator's Miller Estate 1, 7-9s-5w, cored sw sand 7864-78 ft, quit 8505 ft, July 23, 1936. Magnolia Petroleum Co. farmed its acreage to Union Sulphur Co., 1939.

LAFAYETTE PARISH

CARENCRO*

Section 33-8s-4e. **Means of Discovery:** Seismograph, Pure Oil Co., 1930. **Extent of Development:** Pure's Manmotin 1, dry 6742 ft, 1930. **Remarks:** See Bristol, St. Landry Parish.

LAFAYETTE*

North of Lafayette, Section 13-9s-4e. **Means of Discovery:** Torsion balance, Stanolind Oil & Gas Co., 1935. Reflection seismograph, Gulf Oil Corp., 1936. **Extent of Development:** Undrilled. **Principal Leaseholders:** Milner, Sun Oil Co., Magnolia Petroleum Co.

SCOTT-DUSON*

South of Scott and between Scott and Duson, Sections 36-9s-3e and 4, 5-10s-3e, 4-10s-2e. **Means of Discovery:** Reflection seismograph, Magnolia Petroleum Co., 1936 and 1937, Continental Oil Co., torsion balance, Coastal Oil Finding Co. **Extent of Development:** Continental's Foreman 1, 36-9s-3e, dr to 10,973 ft, abnd May, 1938. **Principal Leaseholders:** Magnolia, Sun Oil Co.

YOUNGSVILLE*

Southwest of Broussard, 5-11s-5e. **Means of Discovery:** Reflection seismograph and torsion balance, Stanolind Oil & Gas Co., 1936. **Extent of Development:** Stanolind's Billeaud 1, 35-10s-5e, abnd 11,003 ft, Nov., 1939. **Principal Leaseholder:** Stanolind.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

LAFOURCHE PARISH

BAYOU PEROT

Sw Lake Salvador, 2½ mi sw Barataria field, Section 6-17s-23e. **Means of Discovery:** Reflection seismograph, Tide Water Associated Oil Co., 1938. **Discovery Well:** Tide Water's Delta Farms 1, 6-17s-23e, flowed 162 bbls 32-gr oil daily, ⅛-in choke, 11,290-304 ft, working pressure 1400 lbs, March 18, 1940. **Producing Formations:** Oligocene 11,290-304 ft. **Estimated Productive Acreage:** 400; 40 developed. (Sept. 10, 1940, discovery was only well.) **Estimated Ultimate Recovery:** 500,000 bbls. **Daily Production, July 1, 1940:** 150 bbls from 1 well. **Deepest Hole:** Discovery well. **Principal Leaseholder:** Tide Water. **Remarks:** Also known as Bay Brussel.

CHACAHOULA

Centering around Section 70-15s-15e. **Means of Discovery:** Gas seepage; refraction seismograph, Gulf Oil Corp., 1926. Geophysics by Sun Oil Co. on the flank in 1937. Gulf's Starks 1 proved dome. **Structure:** Dome, cap rock 1035 ft, salt 1302 ft. **Discovery Well:** Sun's Dibert, Stark & Brown 1, Sept. 6, 1938, 15 bbls per hour, ¼-in choke, 7240 to 7253 ft. **Producing Formations:** Miocene 7240 to 7269 ft, 7295-7312 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 100; 40 developed. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Daily Production, July 1, 1940:** 1250 bbls from 6 wells. **Cumulative Production, July 1, 1940:** 602,473 bbls. **Estimated Reserve:** 1,397,527 bbls. **Deepest Hole:** Sun's Dibert-Stark-Brown 4, dr 8265 ft, July, 1939. **Oil Outlet:** Sun Pipe Line Co.'s 6-in line to Black Bayou, barge. **Principal Leaseholders:** Sun, Gulf, Sulphur rights sub-let to Texas Gulf Sulphur Co., Superior Oil Co. **Remarks:** Was called Thibodeaux. On Sept. 10, 1940, Superior was near 12,000 f* in State 3, flank test.

EAST LABADIEVILLE*

East of Labadieville, in North Thibodeaux area, Section 115-14s-15e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1937. **Extent of Development:** Humble's Caldwell Sugars 1, abnd 12,600 ft, May, 1940. **Principal Leaseholder:** Humble.

FIELD LAKE*

North of Long Lake Section 48-17s-18e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1934. Fohs Oil Co., 1936 and 1937. **Principal Leaseholders:** Shell, Gulf Oil Corp., Fohs, Mid States Oil Co., Magnolia Petroleum Co.

GOLDEN MEADOWS

Section 1-20s-21e. **Means of Discovery:** Reflection seismograph, The Texas Co. and Louisiana Land & Explo. Co., 1936. **Discovery Well:** Texas Co.'s LaTerre 1, Dec. 31, 1938. Perforated 8500 to 8510 ft, made 230 bbls 43.9-gr oil daily, 3/16-in choke. **Structure:** Probable dome. **Producing Formations:** Miocene 8500 to 8510 ft; 7020-40 ft; 5132-70 ft; 5440-52 ft; 7912-55 ft; 6602-07 ft; 8152-62 ft; 10,020-40 ft. **Average Sand Thickness:** 22 ft. **Productive Acres:** 700; 190 developed. **Daily Production, July 1, 1940:** 11,070 bbls from 119 wells. **Estimated Ultimate Recovery:** 25,000,000 bbls. **Production Through July 1, 1940:** 2,551,319 bbls. **Indicated Remaining Reserves:** 22,448,641 bbls. **Deepest Hole:** The Texas Co.'s LLE Golden Meadows 1, dr to 12,526 ft, pb and made over 2 dozen tests before being abnd July, 1939 at 2600 ft. **Oil Outlet:** Barge. **Range of Gravity:** 36.1 to 43.9 degrees. **Rigs Running at July 1, 1940:** 7. **Principal Leaseholders:** The Texas Co., Mar-Tex Oil Co., St. Mary Oil Co., F. W. Bennett.

GRANDISON*

Section 14-20s-23e. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1938-39. **Extent of Development:** Gulf's Grandison 1, abnd 12,013 ft, June, 1939; Grandison 2, 21-20s-23e, abnd below 12,000 ft, 1939. **Principal Leaseholder:** Gulf.

LAFOURCHE CROSSING

Section 132-15s-17e. **Means of Discovery:** Gas seepage, paraffin beds; shot holes showed gas, reflection seismograph, Perry Scranton 1936. Geophysics showed a complex structure with about 40 ft of closure with no closure on the ne. More closure was shown with the drilling of the discovery well. **Type Structure:** Believed to be deep dome. **Discovery Well:** Mikton Oil Co.'s Martinez 2, Sept. 15, 1939, Miocene 10,128 to 10,132 ft, 312 bbls 39.9-gr oil daily, 5/32-in choke, tp 1985 pounds, cp 1265 pounds. **Producing Formations:** Miocene 10,128 to 10,132 ft. **Average Sand Thickness:** Sands thin, much lensing. **Estimated Ultimate Production:** 1,000,000 bbls. **Daily Production, July 1, 1940:** 600 bbls from 3 wells. **Cumulative Production, July 1, 1940:** 113,219 bbls. **Estimated Reserve:** 886,781 bbls. **Range of Gravity:** 10,128 to 10,132 ft, 39.9. **Principal Leaseholders:** Mikton Oil Co., Lisbon-Iberia Oil Co.

LAKE BOEUF*

West of Lake Boeuf, Sections 53, 69-15s-18e; 17, 18-15s-19e. **Means of Discovery:** Reflection seismograph, torsion balance, 1934. **Extent of Development:** Gay, Trustee's Godchaux 1, Section 34, quit at 6226 ft, 1935. Emerald Petroleum Co.'s Bowie 1, 53-15s-18e, abnd 8456 ft, Jan., 1935. Gulf Refining Co.'s Bowie Lbr. Co. 1-B, 69-15s-18e, abnd 12,512 ft, June, 1940. **Principal Leaseholder:** Gulf. **Remarks:** Formerly known as Bowie.

LAKE BULLY CAMP*

Section 64-18s-21e. **Means of Discovery:** Refraction seismograph, Gulf Oil Corp., 1928. The Texas Co. shot across the dome in

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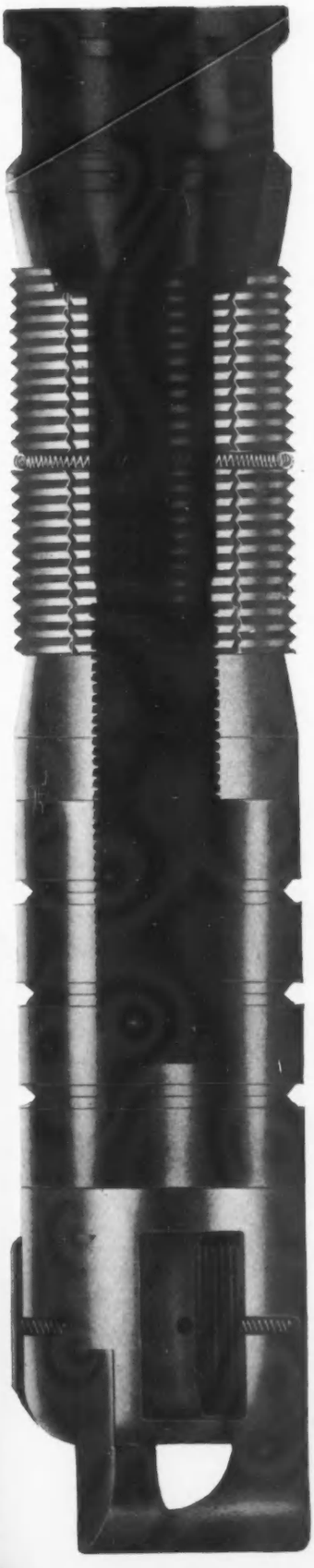

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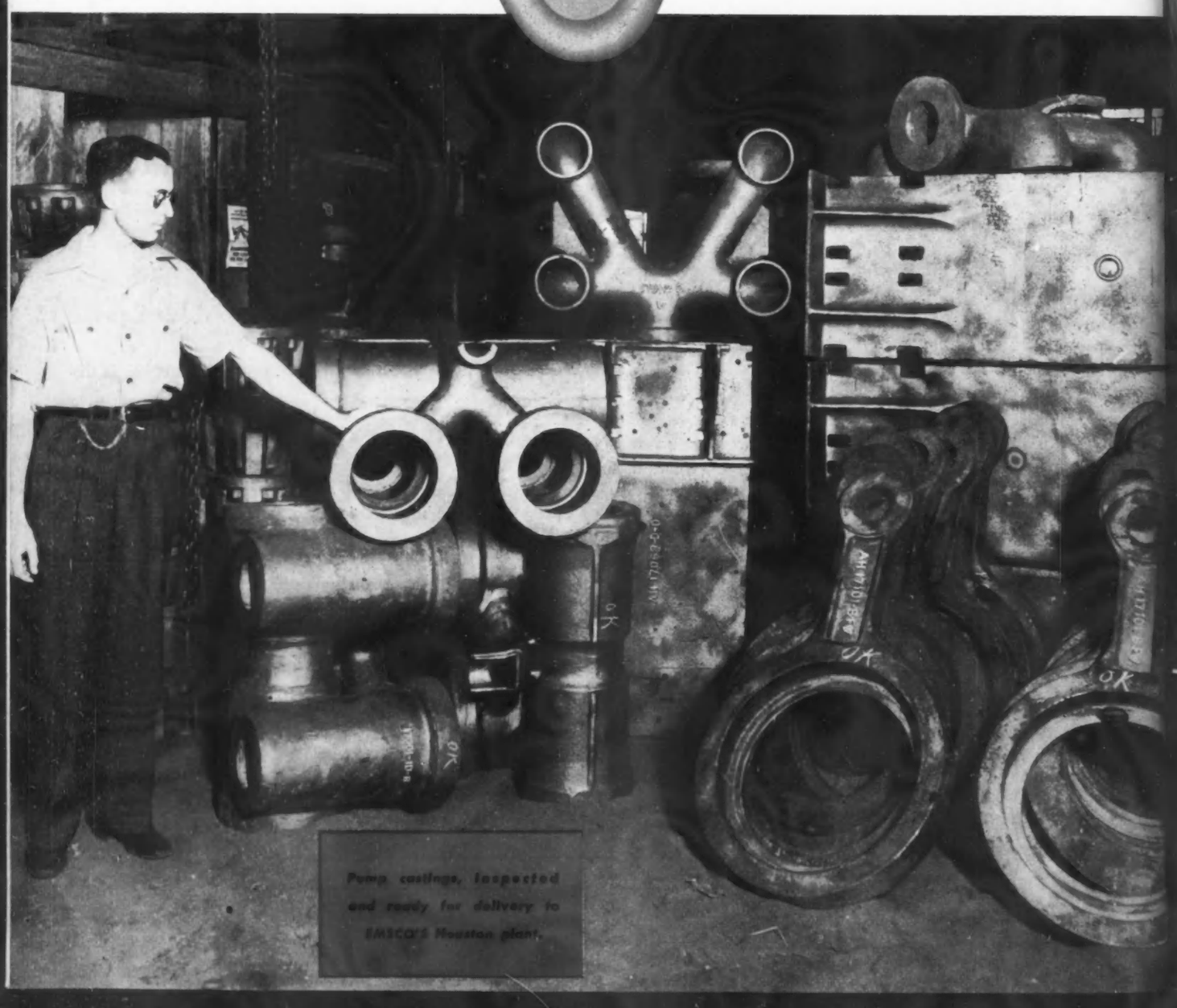

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T E S C O

1931. Humble Oil & Refining Co. worked in the area in 1929. Tide Water Associated Oil Co. used reflection seismograph, gravimeter, 1938-39. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble, Tide Water Associated. **Remarks:** Large fee holder refuses to lease acreage where geophysical work has shown a high, but all surrounding acreage is leased.

LAKE LONG

Near Bourg, Sections 64, 65, 67-17s-19e. **Means of Discovery:** Reflection seismograph, Fohs Oil Co. and Pilgrim Exploration Co., 1935; Gulf Oil Corp., Shell Petroleum Corp. worked in the area with geophysical instruments. **Discovery Well:** Fohs and Pilgrim's State Long Lake 1, June 22, 1937, 36 bbls 38.3-gr oil per hour, various size chokes. First 24 hours, 890 bbls, ¼-in choke, 9406 ft. **Type Structure:** Dome. **Producing Formations:** Miocene 9365 to 9392 ft; 9816-19 ft; 10,232-36 ft; 9156-61 ft; 10,416 to 10,419 ft. **Average Sand Thickness:** 25 ft. **Productive Acres:** 600; 180 developed. **Daily Production, July 1, 1940:** 1300 bbls from 11 wells. **Estimated Ultimate Recovery:** 8,720,000 bbls. **Production Through June, 1940:** 1,047,131 bbls. **Indicated Remaining Reserve:** 7,762,269 bbls. **Deepest Hole:** Fohs and Pilgrim's State 3, 7-in, 9477 ft; drilled to 11,347 ft, pb and comp 9382 ft, Feb., 1938. **Oil Outlet:** Barge. Gas, Gulf Natural Gas Corp. 12-in. **Gravity Oil:** 9376 ft, 38.9; 10,416 ft, 51; 9816 ft, 49; 9156 ft, 51; 10,232 ft, 37. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Fohs and Pilgrim 50-50 basis.

LEESVILLE

Sections 26, 27, 34-21s-22e. **Means of Discovery:** Seismograph, Gulf Oil Corp., 1928. **Discovery Well:** The Texas Co.'s La. Land 2, Section 26, 30 bbls 20-gr oil per hour, ½-in choke 3028 ft, Feb. 21, 1931. Deepened, 1750 bbls 29-gr oil daily, ½-in choke, 3598-3628 ft, April, 1931. **Structure:** Dome, salt 4080 ft. **Producing Formations:** Miocene 2929-3046 ft, 3262-4602 ft, 4808 to 4966 ft and 5019 to 5047 ft; 5633 to 5683 ft, 6176 to 6250 ft, 6785-6827 ft. **Average Sand Thickness:** 120 ft. **Productive Acres:** 350. **Daily Production, July 1, 1940:** 2950 bbls from 77 wells. **Estimated Ultimate Recovery:** 30,000,000 bbls. **Production Through June, 1940:** 21,650,323 bbls. **Indicated Remaining Reserve:** 8,349,697 bbls. **Deepest Hole:** Texas' LL&E Leesville 70, dr 9763 ft, salt, pb, dst 8040-90 ft, rec sw, abnd, April, 1939. **Oil Outlet:** Barge. **Range of Gravity:** 3000 ft, 20-gr; 3300 ft, 22-gr; 3600 ft, 3700 ft, 3900 ft, 29-gr; 4200 ft, 35-gr; 4300 ft, 30-gr; 4800 to 6750 ft, 33 to 41-gr. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Emerald Petroleum Corp., Gulf Oil Corp. **Remarks:** Sometimes called Bayou La Fourche.

MARCHAND†

Twp 19-23s-23e. **Means of Discovery:** Seismograph refraction, Gulf Oil Corp., 1927. Hoard Exploration Co. did work in area for William Helis. Reflection seismograph, The California Co., 1938. **Structure:** Dome, salt 7463 ft. **Extent of Development:** Helis' City of New Orleans 1, logged salt at 7463 ft, several showings of oil above salt. Hole was pb from 8012 ft in salt and redrilled to 7547 ft in salt and abnd May, 1937. City of New Orleans 2, oil show 7322-25 ft, top salt 7959 ft, dry in salt 9660 ft, Dec., 1936. **Principal Leaseholder:** Gulf.

NORTH FIELD LAKE*

North of Field Lake, Section 14-16s-18e. **Means of Discovery:** Pendulum and reflection seismograph, 1936, 1937, Gulf Oil Corp. **Extent of Development:** Undrilled.

RACELAND

2 mi e of Raceland, Section 34-15s-19e. **Means of Discovery:** Surface geology, reflection and refraction seismograph, Amerada Petroleum Corp. and Louisiana Land & Exploration Co., 1936. **Discovery Well:** Amerada and Louisiana Land & Exploration Co.'s South Coast 1, Jan. 25, 1938, 733 bbls 34.9-gr oil daily, ¼-in choke, 10,208 ft. **Type Structure:** Dome. **Producing Formations:** Miocene sands from 7174-90 ft, 10,156-66 ft, 10,183 to 10,201 ft and from 10,205 to 10,208 ft. **Average Sand Thickness:** 40 ft. **Productive Acres:** 500; 100 developed. **Daily Production, July 1, 1940:** 1200 bbls from 4 wells. **Estimated Ultimate Recovery:** 7,500,000 bbls. **Production Through June, 1940:** 931,045 bbls. **Indicated Remaining Reserve:** 6,568,955 bbls. **Deepest Hole:** Amerada's South Coast 2, sw disc well, dr 12,200 ft, abnd Nov., 1938. **Oil Outlet:** Barge. **Gravity Oil:** 10,183 to 10,208 ft, 34.9. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Amerada and Louisiana Land & Exploration Co. 50-50 basis. Tide Water Associated Oil Co. **Remarks:** See Bayou DesAllemands.

TIMBALIER BAY

In Timbalier Bay, Section 36-23s-21e. **Means of Discovery:** Gravity and reflection seismograph, Gulf Oil Corp., 1936-37. **Discovery Well:** Gulf's State PP3, Jan. 25, 1938; 14 bbls per hour, 3/16-in choke; perforations 6955 to 6959 ft (20 shots). **Type Structure:** Dome, 7741 ft. **Producing Formations:** Miocene sands 5323-40 ft; 6758-95 ft; 6955 to 6959 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 200; 40 developed. **Daily Production, July 1, 1940:** 200 bbls from 2 wells. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through June, 1940:** 126,105 bbls. **Indicated Remaining Reserve:** 873,895 bbls. **Deepest Hole:** Discovery well drilled to 8722 ft, was pb and comp. **Oil Outlet:** Barge. **Gravity Oil:** 6758-95 ft, 32; 5223-40 ft, 26.7; 6955 to 6959 ft, 32.8. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Gulf, The Texas Co., Southern Sulphur Co.

VALENTINE

Township 17s-20e. **Means of Discovery:** Surface indications induced drilling shallow wells which gave encouraging data. Reflection seismograph, Barnsdall Oil Co., 1932. Later worked by Pan American Production Co. **Discovery Well:** Pan American and Barnsdall's Harange 1, Dec. 29, 1936, 20 bbls 36.8-gr oil per hour, ¼-in choke, 6977 ft. **Type Structure:** Dome; solid salt 6580 ft, broken salt 6573 ft. **Producing Formations:** Miocene at 3835 to 3850 ft, 4606-19 ft, 5050 to 5075 ft, 5176-90 ft, 5364 to 5390 ft, 5407 to 5426 ft, 5886 ft, 6082 to 6150 ft, 6928 to 6950 ft, 3227-39 ft, 7372-87 ft, 7464-7500 ft, 9278-9325 ft. **Average Sand Thickness:** 60 ft. **Productive Acres:** 250. **Daily Production, July 1, 1940:** 2510 bbls from 27 wells. **Estimated Ultimate Recovery:** 16,720,000 bbls. **Production Through June, 1940:** 4,218,014 bbls. **Indicated Remaining Reserve:** 13,128,236 bbls. **Deepest Hole:** Pan American's Community A-3, dr 11,001 ft, abnd, Dec., 1939. **Oil Outlet:** Pan American's 6-in to Bayou Lafourche, then barge. **Gravity Oil:** All oil sand makes 31 to 39 gravity oil. Gas sand 5176 ft, 50.1-gr. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Pan American, Barnsdall. **Remarks:** Pan American leased additional acreage after taking a farm-out from Barnsdall. Pan American operates the field on a 50-50 basis with Barnsdall Oil Co. Also was known as LaRose dome. Wm. Helis disc new 7464 ft sd, July, 1938. **Heaving Shale:** Below 8138 ft.

LIVINGSTON PARISH

DENHAM SPRINGS*

Centering Section 37-7s-3e. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., 1937. **Extent of Development:** Neville & Grubb's Evans 1, 47-7s-3e, topped Heterostegina 7622 ft abnd in porous lime 7656 ft, Sept., 1937. Fowler & Tower's Pirie 1, 41-7s-3e, abnd 9050 ft, April, 1940, Fowler & Tower's Hood 1, 37-7s-3e, odor of oil 7656 ft, abnd 8008 ft, Aug., 1939. **Principal Leaseholder:** Superior Oil Co. **Remarks:** In 1937, Humble Oil & Refining Co. took 350,000 acres from Great Southern Lbr. Co. in Livingston, Tangipahoa, St. Helena, St. Tammany and Washington parishes, agreeing to drill 6000-ft test each year for 4 yrs.

HOLDEN

Centering town of Holden, Sec. 40-6s-5e. **Means of Discovery:** Seismograph. **Extent of Development:** Undrilled. **Principal Leaseholder:** John Nielson.

SPRINGFIELD*

Southeast of Springfield, centering Sections 32-7s-6e, 27-7s-5e. **Means of Discovery:** Geophysics by United Gas Public Service Corp., 1936. **Extent of Development:** Humble Oil & Refining Co.'s Great Southern Lbr. Co. 1, 27-7s-5e, gas odor 8368 ft, abnd 9371 ft, Oct., 1939. At Sept. 1, 1940, Humble was preparing to drill Great Southern 2, between Denham Springs and Springfield. **Principal Leaseholders:** Union Producing Co., Humble.

STERNS

Centering Sec. 22-5s-6e. **Means of Discovery:** Seismograph, Magnolia Petroleum Co. **Extent of Development:** Undrilled. **Principal Leaseholder:** Magnolia.

WATSON*

Near town of Watson, centering Section 52-5s-2e. **Means of Discovery:** Geophysics, Tide Water Associated Oil Co., 1936. **Extent of Development:** Undrilled. **Principal Leaseholders:** Tide Water, Sun Oil Co., Magnolia Petroleum Co.

ORLEANS PARISH

ALLIGATOR POINT*

Section 1-12s-14e. **Means of Discovery:** Reflection seismograph, W. T. Burton, 1938. **Extent of Development:** Undrilled. **Principal Leaseholder:** W. T. Burton.

LAKE PONTCHARTRAIN*

Northwest New Orleans, in Twnps 10s-13e, 11s-13e. **Means of Discovery:** Reflection seismograph, W. T. Burton, 1937-38. **Extent of Development:** Burton's Fauborg de Montluzin 1, 11s-13e, abnd 10,680 ft, sw sds, 1938; State-Lake Pontchartrain 1, 10s-13e, dr 11,149 ft, pb, sw and oil 8153-8210 ft, abnd March, 1937; Fauborg de Montluzin B-3, dr 10,425 ft, Aug., 1939; State-Lake Pontchartrain 2, 10s-13e, abnd 10,134 ft, March, 1940. On Sept. 10, 1940, Burton's State 3, coring 8648 ft; State 4, 10s-13e, near Point Aux Herbes, lcn. **Principal Leaseholder:** W. T. Burton. **Remarks:** This prospect shot by The Texas Co., turned back to Burton.

UNKNOWN PASS*

Section 18-11s-15e. **Means of Discovery:** Reflection seismograph, W. T. Burton, 1938. **Extent of Development:** Burton's L&N 1, 18-11s-15e, abnd 10,405 ft, 1940. On Sept. 10, 1940, Burton's State 3, 5100 ft n L&N 1, coring 8648 ft. **Principal Leaseholder:** W. T. Burton.

PLAQUEMINES PARISH

BASTIAN BAY*

Section 43-20s-28e, 6 mi sw Quarantine Bay. **Means of Discovery:** Reflection seismograph, Louisiana Land & Exploration Co., 1937-38. **Extent of Development:** The Texas Co.'s Bastian Bay 1, oil

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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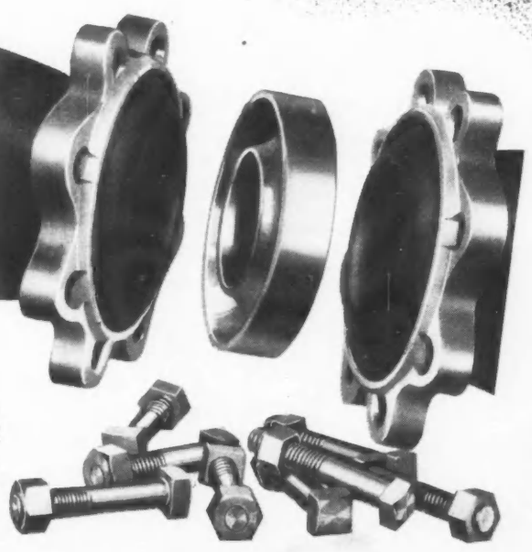

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show 8821 ft, abnd 12,257 ft, June, 1939; State 1, abnd 10,278 ft, Oct., 1939. **Principal Leaseholders:** The Texas Co., Deep Rock Oil Corp., Phillips Petroleum Co. **Remarks:** Phillips reportedly intends to drill by Oct. 1, 1940.

BAY ADAMS*

Bay Adams, Sections 32-19s-28e, 23-20s-28e. **Means of Discovery:** Geophysics by Southern Sulphur Corp., and Gulf Oil Corp. reflection seismograph, Shell Oil Co., 1938. **Extent of Development:** Southern Sulphur Corp.'s State 1, abnd 1410 ft, April, 1935. Gulf's State 2, reported slight show from 1350 to 1359 ft, dry at 4678 ft, June, 1937. **Principal Leaseholders:** Gulf, Shell, Texas Co., Louisiana Land and Exploration Co.

FORT JACKSON*

Section 24-20s-29e. **Means of Discovery:** Gravity work and reflection seismograph, Shell Oil Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholder:** Shell.

GARDEN ISLAND BAY

At the mouth of the Mississippi River, Sections 37, 38-23s-33e. **Means of Discovery:** Refraction seismograph, McCollum Exploration Co., 1928. **Discovery Well:** Texas Co.'s Garden Island Bay 16, 525 bbls, 37.2-gr oil, ¼-in choke, 4914-28 ft, Sept. 11, 1935. **Structure:** Piercement dome, cap rock 1691 ft, salt 2017 ft. **Producing Formations:** Miocene 4072-4148 ft, 4482-4511 ft, 4552-4590 ft, 4615-4644 ft, 5675-5718 ft, 6176-6222 ft, 6580-6630 ft, 6829-6952 ft; and from 4905 to 5061 ft, 5782 to 5810 ft, gas sand, 1672 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 250; 140 developed. **Daily Production, July 1, 1940:** 2625 bbls from 22 wells. **Estimated Ultimate Recovery:** 18,750,000 bbls. **Production Through June, 1940:** 2,912,219 bbls. **Indicated Remaining Reserve:** 15,837,781 bbls. **Deepest Hole:** Went to 7200 ft in Miocene. **Oil Outlets:** Texas Pipe Line Co.'s 6-in to Pilot town, then barge. **Range of Gravity:** 4072-4148, 45; 4550 ft, 39 gravity; 4950 ft, 40.8 gravity; 5780 ft, 36.5; 6880-6925 ft, 37.9; 6176-6222 ft, 32.7 gravity. **Rigs Running Sept. 1, 1940:** One. **Principal Leaseholder:** The Texas Co. **Remarks:** Gas 900 and 1400 ft.

GRAND BAY (Bird Island)

Section 6-20s-19e. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1937. **Discovery Well:** Gulf's Grand Prairie Levee District 1-A, July 9, 1938, 21 bbls, 27.2-gr oil per hour, ⅜-in choke, 6133-51 ft. **Type Structure:** Believed to be deep dome. **Producing Formations:** Miocene 6132 to 6151 ft, 7125-46 ft, 8750-60 ft, 9678-9700 ft, 8115-25 ft, 9980-90 ft. **Average Sand Thickness:** Broken sands, 19 ft. **Productive Acres:** 1000; 280 developed. **Estimated Ultimate Production:** 30,000,000 bbls. **Daily Production July 1, 1940:** 3310 bbls from 21 wells. **Production Through June, 1940:** 931,611 bbls. **Estimated Reserve:** 29,068,389 bbls. **Deepest Hole:** Gulf's G. P. L. D. 6-A, 10,453 ft, Miocene, pb, comp 9980-90 ft. **Oil Outlet:** Barge. **Gravity Oil:** 27-36 deg. **Rigs Running, July, 1940:** Three. **Principal Leaseholders:** Gulf, Wm. Helis.

LAKE HERITAGE

Sections 1, 12-18s-25e. **Means of Discovery:** Refraction seismograph, Gulf Oil Corp. and Humble Oil & Refining Co., 1928. **Discovery Well:** Gulf's Lafourche Levee Basin District 1, Section 12-18s-25e, 3 bbls 37.6-gr oil daily at 4515 ft, after drilling salt to 4604 ft and plugging back, May, 1934. **Structure:** Dome, salt 3811 ft. **Producing Formations:** Miocene 3116-66 ft, 3172-3194 ft, 4515 ft, 4640 to 4646 ft. **Average Sand Thickness:** 15 ft. **Productive Acres:** 100, 60 developed. **Daily Production, July 1, 1940:** 50 bbls from 2 wells. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through June, 1940:** 148,710 bbls. **Indicated Remaining Reserve:** 857,290 bbls. **Deepest Hole:** Gulf's Lafourche Levee Basin District 7, 12-18s-24e, dr to 9786 ft, pb and made series of tests up hole, finally abnd 7120 ft, April, 1938. **Oil Outlet:** Barge. **Range of Gravity:** 3200 ft, 32.1 gravity; 4500 ft, 37.6 gravity. **Rigs Running, July 1, 1940:** One. **Principal Leaseholders:** Gulf and Humble jointly, with sulphur rights subleased to Texas Gulf Sulphur Co.

LAKE WASHINGTON

Sections 1, 2, 11, 12, 13, 14-20s-26e. **Means of Discovery:** Refraction seismograph, Gulf Oil Corp., Shell Oil Co., Humble Oil & Refining Co., independently, 1928. **Discovery Well:** Humble's Cockrell-Moran 4, 240 bbls, ⅛-in choke, from cap rock 1154-1159 ft, June 16, 1931. **Structure:** Dome, cap rock 1094 ft, salt 1574 ft; very large dome. **Producing Formations:** Oil from cap rock at 1130 to 1495 ft. **Average Sand Thickness:** 25 ft. **Productive Acres:** 160. **Daily Production, July 1, 1940:** 525 bbls from 7 wells. **Estimated Ultimate Recovery:** 6,000,000 bbls. **Production Through June, 1940:** 2,786,803 bbls. **Indicated Remaining Reserve:** 3,213,197 bbls. **Deepest Hole:** Humble's Cockrell-Moran 25, 35-20s-26e, top sand 6337 ft, 7-in, 6340 ft, swabbed salt water, drilled to 6445 ft in salt, abnd Feb., 1938. **Oil Outlet:** Barge. **Range of Gravity:** 24.4. **Rigs Running, July 1, 1940:** None. **Principal Leaseholder:** Humble. **Remarks:** Was called Lake Grande Ecaille. Freeport has sulphur mining plant.

POTASH

Section 10-18s-15e. **Means of Discovery:** Refraction work by Gulf Oil Corp., 1929; Humble Oil & Refining Co., 1928. Core drilling by Humble and Texas Gulf Sulphur Co., 1937. **Discovery Well:** Humble's Orleans Levee Board 11, Sept. 20, 1937, 25 bbls 16-gr oil daily by heads, 696 ft. Humble's O. L. B. 37, Miocene 8060-70 ft, 23 bbls hourly, 28.2-gr, Jan. 24, 1939. **Type Structure:** Dome, cap rock 804 ft; salt 1465 ft. **Producing Formations:** Plio-Miocene 689 to 695 ft. Miocene 7890-7905 ft, 8060-70 ft. **Average Sand Thickness:** 7 ft. **Productive Acres:** 150; 30 developed. **Daily Production, July 1, 1940:** 230,735 bbls. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Production Through June, 1940:** 230,735 bbls. **Indicated Remaining Reserve:** 2,769,265 bbls. **Deepest Hole:** Humble's Orleans Levee Board 36, 41-18s-15e, abnd 10,025 ft, Sept., 1938. **Oil Outlet:** Barge. **Gravity Oil:** 689 ft, 16 gravity. Other sands 24-28. **Rigs Running, July 1, 1940:** One. **Principal Leaseholders:** Humble, with sulphur rights subleased to Texas Gulf Sulphur Co.

QUARANTINE*

Center of east edge of Twp. 21s-32e. **Means of Discovery:** Seismograph, Gulf Oil Corp., Humble Oil & Refining Co., 1928. **Extent of Development:** Undrilled. **Remarks:** Indefinite prospect. See Quarantine Bay.

QUARANTINE BAY

In Quarantine Bay, Section 17-19s-17e. **Means of Discovery:** Gravity work and reflection seismograph, Gulf Oil Co., 1936. **Discovery Well:** Gulf's State QQ 3, 845 bbls 36.3-gr oil daily, ¼-in choke, 8134 to 8177 ft, Nov. 28, 1937. **Type Structure:** Believed deep dome. **Producing Formations:** Miocene at 8134 to 8202 ft, 7693-7721 ft. **Average Sand Thickness:** 65 ft. **Productive Acres:** 1200; 500 developed. **Daily Production, July 1, 1940:** 700 bbls from 6 wells. **Estimated Ultimate Recovery:** 30,000,000 bbls. **Production Through June, 1940:** 1,856,289 bbls. **Indicated Remaining Reserve:** 28,143,711 bbls. **Deepest Hole:** Gulf's State QQ 4, 17-19s-17e, dr to 11,014 ft, pb comp 8120-49 ft, Oct., 1938. **Casing Program:** 20-in, 84 ft; 13⅜-in, 1466 ft; 9⅝-in, 8090 ft. **Oil Outlets:** Gulf Pipe Line Co.'s 6-in, then barge. **Gravity Oil:** 32-35 deg. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholders:** Gulf, Wm. Helis. **Remarks:** One of the major discoveries in 1937.

STELLA*

Townships 14 and 15s-24e, potential acreage on both sides Mississippi River, 8½ mi se New Orleans. **Means of Discovery:** Reflection seismograph, California Co., 1938. **Discovery Well:** California's Delta Minerals 1, Lease 7, 2-15s-24e, attempted blowout 10,258 ft, perf 9,950-10,050, flowed 22 bbls 31-gr oil, sw 40 percent, perf 9960-65 ft, flowed 432 bbls daily, 50 percent water, perf 9953-60 ft, sw, perf 9963-66 ft, flowed 7 bbls per hour, perf 9962-72 ft, flowed 12 bbls per hour, 90 percent water, dld 10,807 ft, stuck drill pipe, pb 10,119 ft, sidetracked, waiting on cement Sept. 10, 1940. California's Delta Minerals 1, Lease 5, flowed 490 bbls 41-gr oil daily, 3/16-in choke, 7485-90 ft, tubing pressure 1100 lbs, gas prod 250,000 ft daily, Aug. 16, 1940. **Type Structure:** Probable salt core. **Estimated Ultimate Recovery:** No estimate. Discovery well may be abnd, and Delta Minerals 1, Lease 5 only well in field Sept. 10, 1940. **Principal Leaseholders:** California Co., Vendome Petroleum Corp.

VENICE

Section 26-21s-30e. **Discovery Means:** Refraction seismograph, Gulf Oil Corp., 1928. **Discovery Well:** Tide Water Associated's Manhatten 3, July 18, 1937, 9 bbls 38-gr oil per hour through 5/32-in choke at 7208 ft. **Type Structure:** Dome; cap rock 2216 ft; salt 2965 ft. **Producing Formations:** Miocene 3634 ft, 5618-58 ft, 7127 to 7208 ft, 7483-7537 ft, 7670-7706 ft, 7900-14 ft. **Average Sand Thickness:** 32 ft. **Productive Acres:** 250; 70 developed. **Daily Production, July 1, 1940:** 2355 bbls from 14 wells. **Estimated Ultimate Recovery:** 25,000,000 bbls. **Production Through June, 1939:** 1,549,503 bbls. **Indicated Remaining Reserve:** 23,450,497 bbls. **Deepest Hole:** Went to Miocene at 10,745 ft, 1939. **Oil Outlet:** Barge. **Gravity Oil:** 38-42.3 deg. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Tide Water Associated, 50 percent of 11,000 acres, Humble and Gulf 25 percent each. **Remarks:** Was called Spanish Pass or Rose Dome.

WEST BAY*

West Bay, Section 18-23s-31e. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1938. **Extent of Development:** Gulf's State PP8, abnd 10,074 ft, Oct., 1939; Buras Levee District D-1, 6-23s-31e, abnd 10,103 ft, Feb., 1940. **Principal Leaseholders:** Gulf, Tide Water Associated Oil Co.

WEST VENICE*

West of Venice field, 21s-29 and 30e. **Means of Discovery:** Reflection seismograph, Louisiana Land & Exploration Co., 1936. **Extent of Development:** Undrilled. **Principal Leaseholders:** Louisiana Land & Exploration Co.

POINTE COUPEE PARISH

BATCHELOR*

Section 28-3s-8e. **Means of Discovery:** Torsion balance, reflection seismograph, Batchelor Oil Co., 1937. **Extent of Development:** Batchelor abnd 9900-ft test. **Principal Leaseholder:** Batchelor.

LIVONIA*

Southwest Livonia, Section 94-6s-9e. **Means of Discovery:** Geophysics, Superior Oil Co., 1938. Humble Oil & Refining Co., reflection seismograph, 1938-39, also gravimeter. **Extent of Development:** Undrilled. **Principal Leaseholders:** Jesse Kyle, Humble. **Remarks:** In 1939, Sinclair Prairie Oil Co. leased 2500 acres in the False River Island area, Twnps 5s-9 and 10e.

POINTE COUPEE*

Section 8-1s-7e. **Means of Discovery:** Torsion balance, Perry Scranton and Harry Hanszen. **Extent of Development:** Falcon-Seaboard Dr. Co.'s Hodgood 1, abnd 8012 ft, May, 1939. **Principal Leaseholders:** Falcon-Seaboard, Barnsdall Oil Co., Harry Hanszen, Medfor, Humble Oil & Refining Co., Roper & Todd. **Remarks:** In twnp 2s-7e, known as Simmesport area, C. H. Bigsby secured 4500 acres centering Secs. 73 and 74, 1939.

RED CROSS*

Southwest of Red Cross, Section 34-5s-7e. **Means of Discovery:** Reflection seismograph, Stanolind Oil & Gas Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholder:** Stanolind.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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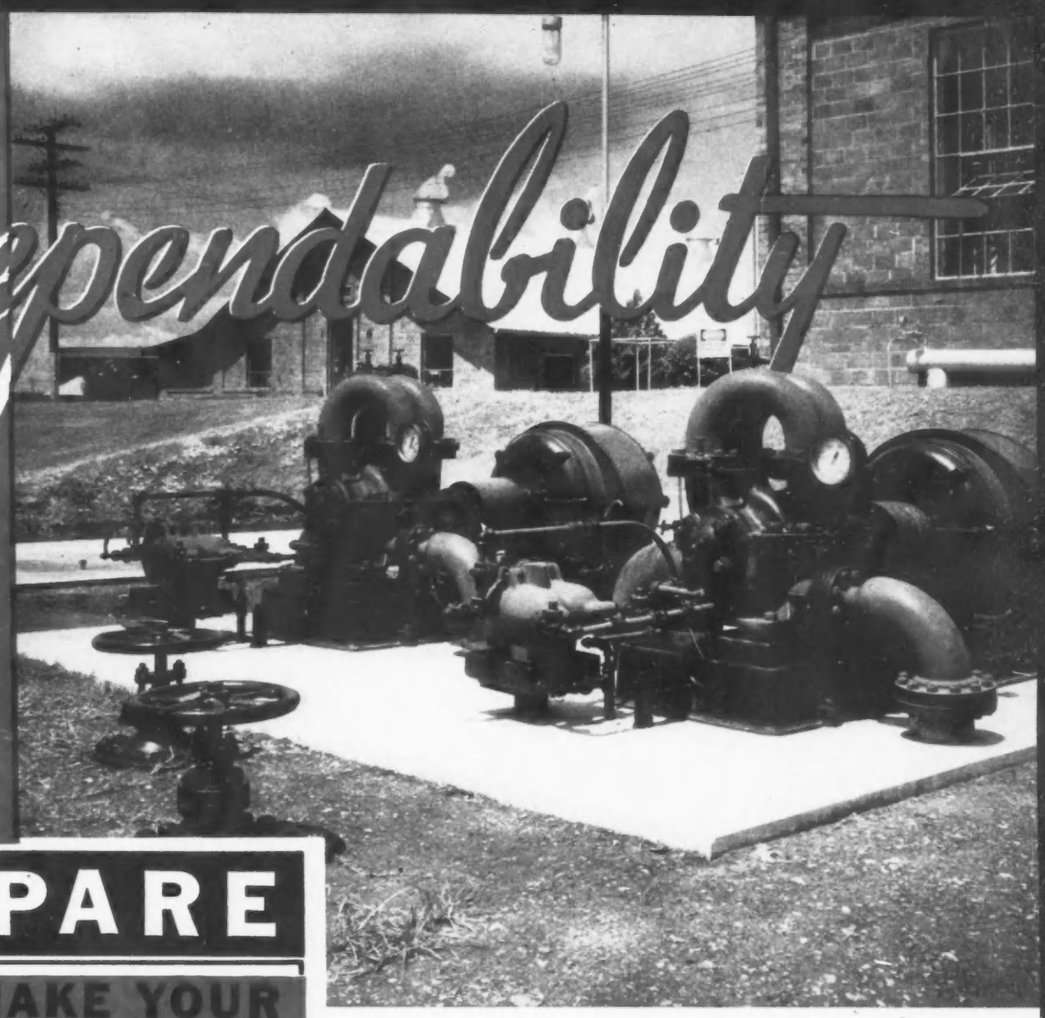

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CHENEYVILLE (Bunkie)

Section 53-1s-2e. **Means of Discovery:** Reflection seismograph, Adams Louisiana Corp., 1934. **Discovery Well:** Amerada Petroleum Corp.'s Weil 1, 53-1s-2e, flowed 96 bbls daily 38-gr oil from 5705-10 ft, 1935. **Type of Structure:** Dome, among northernmost in Gulf Coast. **Producing Formations:** 3 zones in Cockfield-Sparta 5440-5900 ft. **Average Sand Thickness:** 50 ft. **Productive Acreage:** 400; 310 proven. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Daily Production, July 1, 1940:** 2575 bbls from 24 wells. **Cumulative Production Through June, 1940:** 1,303,577 bbls. **Estimated Reserve:** 1,696,423 bbls. **Deepest Hole:** Went to 9251 ft in Wilcox. **Oil Outlet:** Pipe line to Standard, La. **Gravity:** 38 degrees. **Principal Leaseholders:** Sid Richardson, Amerada, Gulf Refining Co. The Texas Co., Texas-Canadian Oil Co. **Remarks:** Also known as Bunkie, and designated by that name on the map accompanying this issue.

ST. BERNARD PARISH

BILOXI*

Twnp 15s-17e. **Means of Discovery:** Seismograph, Tide Water Associated Oil Co., 1937, Gulf Oil Corp., 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Tide Water, Gulf.

CHALMETTE*

Section 34-12s-12e. **Means of Discovery:** Reflection seismograph, Wm. Helis, 1938. Soil analysis, 1938. **Extent of Development:** Wm. Helis' Nunez 1, abnd 9750 ft, heaving shale, Feb., 1939. **Principal Leaseholder:** Wm. Helis.

KENNILWORTH

East of St. Bernard, Section 59-13s-14e. **Means of Discovery:** Reflection seismograph, Vendome Petroleum Co., C. L. Thompson, 1938-1939. **Discovery Well:** Vendome's Kennilworth 1, May 5, 1939, 39 bbls 35.6-gr oil, large volume salt water, 11/64-in choke, perforations 10,600-610 ft. Was killed and drilled to 11,469 ft. Temp abnd, Sept., 1939, wo Jan., 1940, flowed 200 bbls daily from 10,595-630 ft. **Type Structure:** Probable deep dome. **Producing Formations:** Oligocene, 10,600 to 10,610 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 100; 20 developed. **Daily Production, July 1, 1940:** 225 bbls from 1 well. **Estimated Ultimate Recovery:** 800,000 bbls. **Production Through June, 1940:** 51,992 bbls. **Indicated Remaining Reserve:** 748,008 bbls. **Deepest Hole:** Discovery well, 11,469 ft. **Oil Outlet:** Trucked to Mereaux. **Gravity Oil:** 10,600 to 10,610 ft, 35.6-gr. **Principal Leaseholder:** Vendome.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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LAKE BORGNE*

Section 6-12s-15e. **Means of Discovery:** Geophysics, 1935, 1936, 1937. **Extent of Development:** Gulf Oil Corp.'s State RR3, abnd 10,278 ft, July, 1938; State RR4, abnd 10,632 ft. **Principal Leaseholder:** Gulf Oil Corp. **Remarks:** See Lake Lery.

LAKE ELOI*

Nw of Lake Eloi, Section 7-14s-17e, extending into 13s-17e. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1937. **Extent of Development:** Undrilled. **Principal Leaseholders:** Gulf, Humble Oil & Refining Co.

LAKE EUGENIE*

Sections 6, 7, 8, 9, 10-14s-18e. **Means of Discovery:** Seismograph, Humble Oil & Refining Co., 1937. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble, Tide Water Associated Oil Co.

LAKE LERY*

Section 28-14s-14e. **Means of Discovery:** Seismograph, 1928. **Extent of Development:** Southern Sulphur Corp.'s State 1, quit at 2138 ft, April, 1934. Gulf Oil Corp.'s State RR2, 38-14s-15e, dry 5102 ft, Jan., 1938. Vendome Petroleum Corp.'s Kennilworth 3, 76-14s-14e, abnd near 10,000 ft, 1940. **Principal Leaseholder:** The Texas Co. **Remarks:** Also called Delacroix Island. See Lake Borgne.

OLEVIER*

Sections 127, 135-14s-14e. **Means of Discovery:** Geophysics, 1928, Petty Geophysical Engineering Corp., McCollum Exploration Co., Gulf Oil Corp. **Extent of Development:** Thompson et al's Delacroix 1, Section 127, quit at 6225 ft, 1933, Joe Danciger's Battles 1, dry 7055 ft, May, 1935, F. F. Kramer's Robinson 1, (gas show reported 100 ft) was abnd.

SHELL BEACH*

Section 33-13s-15e. **Means of Discovery:** Seismograph, 1928. **Extent of Development:** Southern Sulphur Co.'s State Lake Borgne 1, dry 1370 ft, 1934. Emerald Petroleum Corp.'s Shell Beach 1, 31-13s-15e, sand showing oil 7246 ft, trouble with hole, pb, set 7-in csg, abnd 7380 ft, July, 1936. **Principal Leaseholder:** Vendome Petroleum Corp.

YSCLOSKEY*

Se Yscloskey, Sections 24 and 25-14s-15e. **Means of Discovery:** Reflection seismograph, Tide Water Associated Oil Co., 1938; Gulf Oil Corp., 1939. **Extent of Development:** Undrilled. **Principal Leaseholders:** Tide Water, Gulf.

ST. CHARLES PARISH

BAYOU DES ALLEMANDS

Sections 13-15s-20e, 56-16s-20e. **Means of Discovery:** Reflection and refraction seismograph, Amerada Petroleum Corp. and Louisiana Land & Exploration Co., 1935-1936. **Discovery Well:** Amerada and Louisiana Land & Exploration Co.'s State 1, Aug. 1, 1937, 569 bbls 36.1-gr oil daily, 18/64-in choke, from csg perforated at 6820 to 6830 ft. **Structure:** Dome, salt 8632 ft. **Producing Formations:** Miocene 6820 to 6830 ft; 7239-54 ft; 9453-63 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 500; 90 developed. **Daily Production, July 1, 1940:** 250 bbls from 4 wells. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Production Through June, 1940:** 222,068 bbls. **Indicated Remaining Reserve:** 2,777,932 bbls. **Deepest Hole:** Amerada's State 4, 9914 ft, salt. **Oil Outlet:** Barge. **Gravity Oil:** 6820-30 ft, 36.1; 9453-63 ft, 62; 7239-54 ft, 35.4. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholders:** Amerada, Louisiana Land. **Remarks:** Was called Black Prince Island.

HAHNVILLE*

Section 105-13s-20e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1937; Gulf Oil Corp., 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, Gulf, C. L. Thompson, R. H. Parker.

LAKE NETHERLANDS*

Sections 33, 34-14s-22e. **Means of Discovery:** Seismograph, Gulf Oil Corp., 1928. **Extent of Development:** Undrilled.

LAKE SALVADOR*

Sections 12, 13, 14, 24-15s-21e; 7, 18, 19-15s-22e. **Means of Discovery:** Seismograph, Gulf Oil Corp., Humble Oil & Refining Co. and others, 1928. **Extent of Development:** Undrilled. **Principal Leaseholder:** Delta Securities Co.

NORTH PARADIS*

Sections 13-14s-20e, 87-23s-20e. **Means of Discovery:** Reflection seismograph and gravity meter, Humble Oil & Refining Co., 1938. **Extent of Development:** R. H. Parker's Thompson 1, Sec

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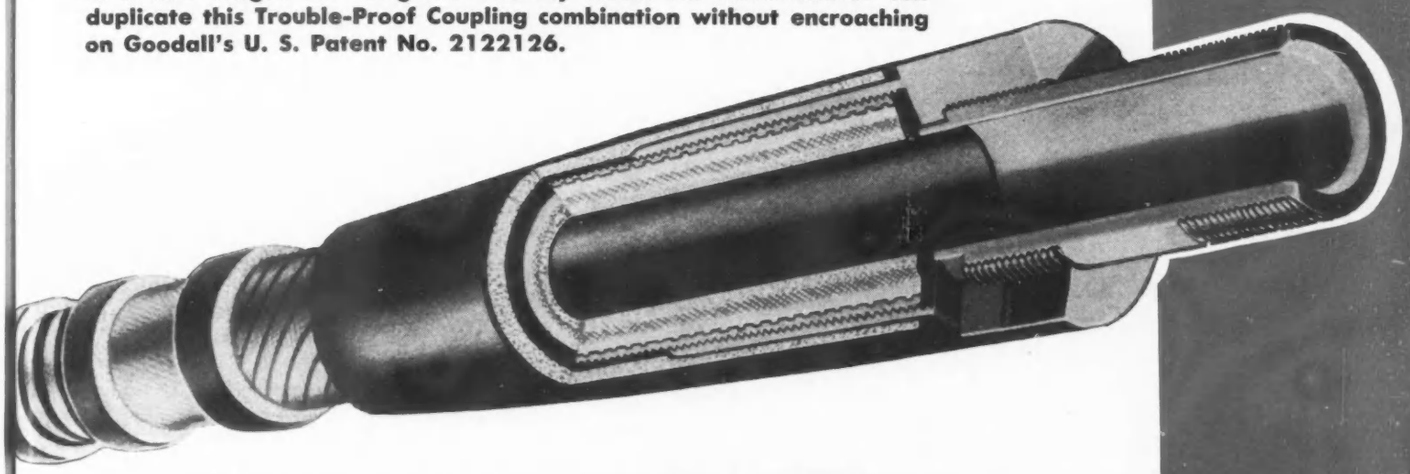

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87-23s-20e, drilled 11,160 ft, abnd May, 1940. **Principal Leaseholders:** Humble, C. L. Thompson. **Remarks:** Also known as Boutte.

PARADIS

Sections 6, 39, 40-14s-20e. **Means of Discovery:** Reflection seismograph, The Texas Co., 1938. **Discovery Well:** The Texas Co.'s L. L. E. Paradis 1, dr below 10,000 ft, set csg, perf 9895 to 9915 ft, flowed 120 bbls 53.7-gr distillate, ¼-in choke, June 26, 1939. **Structure:** Believed deep dome but no material encountered. **Producing Formations:** Miocene 9895 to 9915 ft; 10,295-10,340. **Average Sand Thickness:** 60 ft. **Productive Acres:** 1800; 70 developed. **Daily Production:** 900 bbls from 4 wells. **Estimated Ultimate Recovery:** 140,000,000 bbls. (Estimates range from 27,000,000 bbls to 180,000,000 bbls.) **Production Through June, 1940:** 95,294 bbls. **Indicated Remaining Reserves:** 139,904,706 bbls. **Deepest Hole:** Texas' LL&E-Paradis 2, dr 11,170 ft, logged 200 ft new sd, pb, com 10,295-340 ft, 1760 bbls daily, lcn 1½ mi nw prod. **Oil Outlet:** Texas Pipe Line Co.'s 8-in. **Range of Gravity:** 9895 to 9915 ft, 53.7; 10,295-340 ft, 38.6 deg. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** The Texas Co. and Louisiana Land & Exploration Co.

ST. HELENA PARISH

AMITE*

East of town of Montepelier in Twnps 3 and 4s, 6 and 7e. **Means of Discovery:** Reflection seismograph, William Helis. **Extent of Development:** Undrilled. **Principal Leaseholders:** Helis, Sells Petroleum Co., Tri-State Oil Co.

GREENSBURG*

Centering Sec 2-3s-5e. **Means of Discovery:** Subsurface work Kirby Petroleum Co., 1935. **Extent of Development:** Undrilled. **Principal Leaseholders:** Kirby Petroleum Co., Sun Oil Co., Superior Oil Co., Byrd Hamilton. (12,000 acres.)

ST. JAMES PARISH

CONVENT (Vacherie)

Centering around Sections 5, 17-12s-5e. **Means of Discovery:** Reflection seismograph, torsion balance, Shell Oil Co., 1935. Later geophysical work by Continental Oil Co. **Discovery Well:** Continental Oil Co.'s Realty Operators 1, 17-12s-5e, comp Aug. 1, 1938, 81 bbls distillate, 5,000,000 ft gas daily, 6358½-64½ ft, after pb from 7499 ft, where it attempted to blow out. **Type Structure:** Shell Oil Co.'s Colonial Sugar 1, discovered area as dome June, 1936, at 7492 ft, when salt was encountered. **Producing Formations:** Miocene 6358½-64½ ft; 8035-66 ft. **Average Sand Thickness:** 6 ft. **Productive Acres:** 200; 50 developed. **Daily Production July 1, 1940:** 60 bbls from 1 well. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Production Through June, 1940:** 52,991 bbls. **Indicated Remaining Reserves:** 2,947,000 bbls. **Deepest Hole:** Continental's Colonial Sugar 2, 50-12s-17e, abnd 10,014 ft. Sept., 1939. **Oil Outlets:** Barged from loading docks on Mississippi River to Sellers, La. **Gravity of Oil:** 6358-64 ft, 38-45; 8035 ft, 41. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Shell farmed out acreage to Continental Oil Co., 1937. **Remarks:** Was called Convent-Hester in 1938 Gulf Coast issue. Shell drilled two deep failures before farming to Continental. First field for St. James Parish. Continental's Realty Operators 2 found salt 8767 ft, pb and disc 8035 ft sd, July, 1939.

DONALDSONVILLE*

Centering Section 25-11s-15e, near common corner Ascension, Assumption and St. James parishes. **Means of Discovery:** Reflection seismograph, torsion balance, Shell Oil Co., 1935. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, Stanolind Oil & Gas Co., Gulf Oil Corp., Pelican Natural Gas Co.

LA PICE

Centering around Section 38-12s-15e. **Means of Discovery:** Reflection seismograph and torsion balance Shell Oil Co., 1937-38. **Discovery Well:** Shell's Henry Schexnayder 1, June 2, 1939, 48 bbls 45.6-gr distillate and 3,700,000 ft gas daily, 10/64-in choke, tp 4600 pounds, perf 10,910-915 ft. **Type of Structure:** Deep-seated salt core structure. **Producing Formations:** Oligocene 10,910-915 ft; 11,340-355 ft. **Average Sand Thickness:** 40 ft. **Productive Acres:** 100; 50 developed. **Daily Production, July 1, 1940:** Gas-distillate. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through June, 1940:** 4000 bbls. **Indicated Remaining Reserves:** 996,000 bbls. **Deepest Hole:** Shell's L&I 1, 39-12s-15e, dr to 11,402 ft, pb and comp new sd 11,340 ft. **Oil Outlet:** Gas piped across Mississippi River for industrial use. **Range of Gravity:** 10,910-915 ft, 45.6; 11,340-355 ft, 48.4-gr. **Rigs Running, July 1, 1940:** One. **Principal Leaseholders:** Shell, Humble Oil & Refining Co. **Remarks:** Discovery well had several oil shows while drilling to 11,314 ft. A dst 10,376-392 ft showed 17 stands 32.2-gr oil, no water. Test at 10,940 ft showed gas and distillate, and operators attempted to comp April 20, 1939. It made gas and distillate, was killed and drilled to 11,314 ft.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

ST. JOHN THE BAPTIST PARISH

LA PLACE

Centering Sec 12-11s-7e. **Means of Discovery:** Reflection seismograph, torsion balance, Shell Oil Co., 1937. **Discovery Well:** Pan-American Production Co.'s Mill 1, November 25, 1939, 131 bbls 60-gr distillate 4,300,000 ft gas daily, ¼- and ½-in choke, perf 8115-22 ft. **Type Structure:** Dome. **Producing Formations:** Oligocene 8115-22 ft. **Average Sand Thickness:** 10 ft. **Estimated Ultimate Recovery:** 250,000 bbls. **Daily Production, July 1, 1940:** Gas, 1 well. **Production Through June, 1940:** 4172 bbls. **Estimated Reserve:** 245,828 bbls. **Productive Acreage:** 100; 50 developed. **Deepest Hole:** Shell Oil Co.'s Godchaux 1, 97-11s-7e, dr to 11,005 ft, logged several shows in Oligocene formation, abnd Nov., 1938, top Heterostegina 10,756 ft. **Oil Outlet:** Tank truck to Norco refinery at Sellers, La. **Range of Gravity:** 8115-22 ft, 60. **Principal Leaseholders:** Pan-American, Shell Oil Co. **Remarks:** First field for parish. Prospect farmed out to Pan-American by Shell for a deep test. Pan-American received half interest in 7200 acres.

WEST PONTCHARTRAIN*

Centering w edge Lake Pontchartrain, Twnp 10s-7e. **Means of Discovery:** Torsion balance, reflection seismograph, Shell Oil Co., The Texas Co., 1935. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, Texas Co., Sun Oil Co.

ST. LANDRY PARISH

ARNAUDVILLE*

Section 44-7s-5e. **Means of Discovery:** Reflection seismograph, torsion balance, Shell Oil Co., 1934; Humble Oil & Refining Co., 1935; The Texas Co., reflection seismograph, 1939. **Extent of Development:** Undrilled. **Principal Leaseholders:** Shell, Humble, R. L. Whitlow.

BRISTOL-EAST CANKTON*

Centering Sections 39, 47, 48-8s-4e. **Means of Discovery:** Geophysics, Shell Oil Co. **Extent of Development:** Limited Oil Co.'s Miller 1, 47-8s-4e, oil sand 8380-90 ft, abnd 9005 ft, June, 1936. Shell's Boagni 1, 48-8s-3e, trace oil 8507-15 ft, dry 9006 ft, May, 1937. Western Gulf Prod. Co.'s Boagni 1, 7-8s-4e, top Marginulina 7918 ft, abnd 9017 ft, June, 1938. Adams Oil & Gas Co. et al's Babincaux 1, 39-8s-4e, dry 8975 ft, July, 1939. **Principal Leaseholders:** Leases were dropped after above dry holes were drilled. **Remarks:** Sometimes referred to as Sunset.

CANKTON

Ne Bosco, centering Section 26-8s-3e. **Means of Discovery:** Reflection seismograph, Superior Oil Co., Shell Oil Co., 1935; surface indications. **Discovery Well:** Superior's A. Savoie 1, Dec. 23, 1936, 65 bbls 27-gr oil daily, 18/64-in choke, 5319½ ft. Worked over for 28 bbls 28.7-gr oil daily, Jan. 13, 1937, from perforations at 5320 to 5320½ ft. **Structure:** Dome. **Producing Formations:** Miocene 5316-23½ ft; 5799-5801 ft; 5984-5990 ft. **Average Sand Thickness:** 6 ft. **Productive Acres:** Included with Bosco. **Daily Production, July 1, 1940:** Included with Bosco. **Deepest Hole:** Went to 10,432 ft in Vicksburg. **Oil Outlet:** Pipe line to Standard. **Gravity Oil:** 5799 ft, 33; 5990 ft, 40.8; 5913 ft, 36. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Superior, Shell.

EUNICE*

Section 14-6s-1e. **Means of Discovery:** Geophysics, Elbof Explorations, Inc., 1928; Foxwood, reflection seismograph, 1939. **Extent of Development:** Elbof's Smith 1, dry 4315 ft; LeDoux 1, dry 4362 ft.

GARLAND*

Sections 45, 48, 49, 60-4s-4e; 6, 13-4s-5e. **Means of Discovery:** Seismograph, Humble Oil & Refining Co., Pure Oil Co., 1929. Torsion balance and reflection seismograph, Stanolind Oil & Gas Co., 1937; reflection seismograph, Shell Oil Co., Skelly Oil Co., 1939. **Extent of Development:** Herton Oil Co.'s Thistlewaite Lbr. Co. 1, 60-4s-4e, tried to blow out in sand around 7000 ft, top Wilcox 10,935 ft, abnd 11,220 ft, Nov., 1938. **Principal Leaseholders:** Herton Oil Co., Stanolind. **Remarks:** Sometimes referred to as Palmetto or Beggs.

GRAND COTEAU*

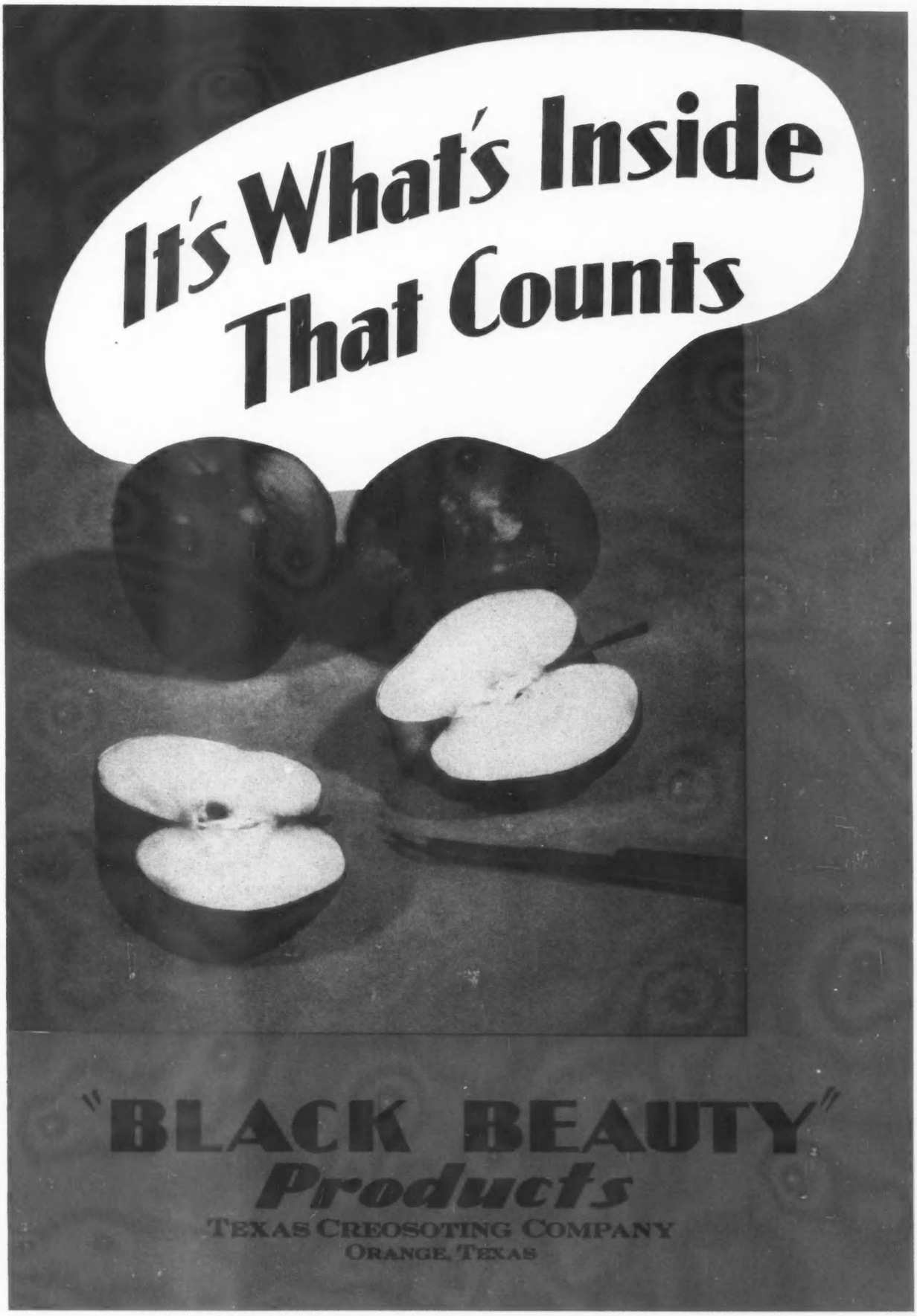
Centering Sections 22, 23-7s-5e. **Means of Discovery:** Reflection seismograph, Atlatl Royalty Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholder:** Atlatl.

KROTZ SPRINGS*

South of Krotz Springs, centering Section 12-6s-7e. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1936. **Extent of Development:** Gulf's Hirsch 1, dry 8483 ft, Aug., 1937. **Principal Leaseholders:** Gulf, Shell Oil Co., The Texas Co.

LAWTELLE*

SWc 6s-3e; SEc 6s-2e. **Means of Discovery:** Reflection seismograph, 1936, Humble Oil & Refining Co., failed to indicate structure. Sun Oil Co. worked area with geophysics; Dunham and Christie, reflection seismograph, 1939. **Extent of Development:** Undrilled. **Principal Leaseholders:** Sun Oil Co., Sinclair Prairie Oil Co. Humble dropped acreage after geophysical work.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LEWISBURG*

Centering town Lewisburg around Section 9-7s-3e. **Means of Discovery:** Reflection seismograph and torsion balance, Stanolind Oil & Gas Co., 1936, 1937. **Extent of Development:** Undrilled. **Principal Leaseholder:** Stanolind.

MORROW*

Centering Sec 2-3s-4e. **Means of Discovery:** Geophysics. **Extent of Development:** Undrilled. **Principal Leaseholders:** Stanolind Oil & Gas Co., Tide Water Associated Oil Co., Skelly Oil Co., Humble Oil & Refining Co., Sun Oil Co.

PLAISANCE*

Southeast Ville Platte, centering Sec 65-5s-3e. **Means of Discovery:** Amerada Petroleum Corp., reflection seismograph, 1938. **Extent of Development:** Undrilled.

PORT BARRE

Sections 4, 20, 21-6s-5e. **Means of Discovery:** Refraction seismograph, Gulf Oil Corp., 1926. The Texas Co., reflection seismograph, 1939. **Discovery Well:** Texas Co.'s Botney Bay Fee 1, 800 bbls, 3765 ft, Feb. 23, 1929. **Structure:** Dome, top cap rock 3551 ft, salt 3831 ft. **Producing Formations:** Miocene and Oligocene at 1497-1517 ft; 3100-50 ft. Flank production 4730-4883 ft; 4640 ft; 5063-80 ft; 5178-80 ft; 5178-95 ft; 5420-27 ft; 5228-46 ft. **Average Sand Thickness:** 30 ft. **Productive Acres:** 500; 390 developed. **Daily Production, July 1, 1940:** 2382 bbls from 10 wells. **Estimated Ultimate Recovery:** 20,000,000 bbls. **Production Through June, 1940:** 8,258,961 bbls. **Indicated Remaining Reserve:** 11,741,039 bbls. **Deepest Hole:** Pan American Prod. Co.'s Comier 3, 4-6s-5e, dry, 7213 ft, March, 1936. **Oil Outlets:** The Texas Pipe Line Co., 6-in; Standard's 10-in. **Range of Gravity:** 3100 to 3800 ft, 21 to 23; 4700 to 4970 ft, 36; 5428-46 ft, 39.4. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Texas Co., Gulf, Pan American. **Remarks:** Pan American's Hirsch 1, w flank, discovered flank production from 4766 to 4883 ft, Dec. 5, 1935.

WASHINGTON*

Sections 17, 38-5s-5e; 68-5s-4e; 21-6s-4e; 61-4s-4e. **Means of Discovery:** Reflection seismograph, Pure Oil Co., 1929. Detailed seismograph, Strake, 1937. **Extent of Development:** C. B. Bunte's Thistlewaite 1, 68-5s-4e, dry 7001 ft, in Marginulina, May, 1935. Noxon & Toomb's Boagni 1, 41-6s-4e, slight show gas 7367 ft, abnd 8514 ft, April, 1937; Pure's Boagni 1, 41-6s-4e, abnd, 1940. **Principal Leaseholder:** Pure.

ST. MARTIN PARISH

ANSE LA BUTTE

Sections 86, 113, 117-9s-5e. **Means of Discovery:** Elevation, gas seeps, paraffin beds. **Discovery Well:** Heywood Bros.' Fee 1, 1350 ft, 1902. **Structure:** Dome, salt 240 ft, cap missing. **Producing Formations:** Pliocene at 800 to 2500 ft; 4630-50 ft. **Average Sand Thickness:** 30 ft. **Productive Acres:** 50. **Daily Production, July 1, 1940:** 760 bbls from 15 wells. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Production Through June, 1940:** 1,013,800 bbls. **Indicated Remaining Reserve:** 3,986,200 bbls. **Deepest Hole:** Yount-Lee Oil Co.'s Hebert 2, quit at 6219 ft, in Miocene. **Oil Outlet:** Barge. **Gravity Oil:** 23; 4630-50, 38. **Rigs Running, July 1, 1940:** 11. **Principal Leaseholders:** Stanolind Oil & Gas Co., Louisiana Crusader Oil Co., Y. D. Spell. **Remarks:** This is a mushroom type salt dome, Glassell & Glassell's Breaux 1, ½ mi w of dome, discovered new sand 4630-50 ft, Feb., 1940.

BAYOU BOUILLON

Sections 13, 24-9s-8e; 18, 19-9s-9e. **Means of Discovery:** Gas seeps. **Discovery Well:** O. W. Heywood et al's No. 2, 1902, 1089 ft. Rycade Oil Corp.'s Bayou Bouillon B-2, 400 bbls, 25-gr oil daily, 3232 ft, July 14, 1928. **Structure:** Dome, cap rock 1504 ft, salt 1609 ft. **Producing Formations:** Miocene at 400 ft, 2864-2904 ft, 3000 to 3400 ft and 4260 to 4341 ft. **Average Sand Thickness:** 30 ft. **Productive Acres:** 50. **Daily Production, July 1, 1940:** 60 bbls from 2 wells. **Estimated Ultimate Recovery:** 750,000 bbls. **Production Through June, 1940:** 578,800 bbls. **Indicated Remaining Reserve:** 171,000 bbls. **Deepest Hole:** Humble Oil & Refining Co.'s Woodward 1, abnd 6471 ft, Jan., 1931, in Lower Oligocene. **Oil Outlet:** Barge. **Gravity Oil:** 25-29. **Rigs Running, July 1, 1940:** 3. **Principal Leaseholders:** Transcontinental Oil Corp. Stanolind has acreage in Sec 14-9s-8e. **Remarks:** Sept., 1940, Superior Oil Co. was drilling 3 flank tests simultaneously.

CYPRESS*

Section 110-10s-6e. **Means of Discovery:** Geophysics, Wm. Helis and Danciger Oil Co., 1937. **Extent of Development:** Undrilled. **Principal Leaseholders:** Wm. Helis and Danciger.

GECHO*

Sections 38, 35, 105-8s-5e and nw Twp 9s-5e. **Means of Discovery:** Surface indications, reflection seismograph, Calcasieu Oil Co., 1926; Shell Oil Co., 1936; geophysics, Gulf Oil Corp. **Extent of Development:** H. J. Weir's DeClouet 1, 108-8s-5e, quit at 2322 ft, Dec., 1924. E. R. Brann's Bank of Lafayette 1, dry 5002 ft, 1933. Shell's Hefaland 1, 35-8s-5e, dry at 9800 ft, Feb., 1937. Shell's Frederick 1, 38-8s-5e, dry at 9500 ft, Jan., 1938. **Remarks:** See Arnaudville.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

HAPPYTOWN

Section 86-7s-5e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1938. **Discovery Well:** Shell's Iberville Land Co. 1, Nov. 21, 1939, 374 bbls 39.3-gr oil daily, 10/64-in choke, perforations 9745 to 9758 ft. **Type Structure:** Dome. **Producing Formations:** Oligocene 9745 to 9758 ft. **Estimated Ultimate Recovery:** 5,000,000 bbls. **Daily Production, July 1, 1940:** 275 bbls from 1 well. **Production Through June, 1940:** 578,800 bbls. **Estimated Reserve:** 4,928,522 bbls. **Deepest Hole:** Shell's Schwing Lbr. Co. 1, abnd 10,946 ft, June, 1940. **Oil Outlets:** Barged to Norco, La. **Range of Gravity:** 9745 to 9758 ft, 39.3. **Principal Leaseholder:** Shell.

HENDERSON (Plumb Bob)

Section 21-8s-7e. **Means of Discovery:** Reflection seismograph, The Texas Co., 1934. **Type Structure:** Dome, top salt 8848 ft. **Discovery Well:** Texas' St. Martin Land Co. 12, Sept. 9, 1939. 250 bbls 37.3-gr oil daily, 10/64-in choke, 8590 ft. **Producing Formations:** Oligocene 8570 to 8590 ft. **Estimated Ultimate Recovery:** 1,750,000 bbls. **Daily Production, July 1, 1940:** 500 bbls from 2 wells. **Production Through June, 1940:** 69,675 bbls. **Estimated Reserve:** 1,680,315 bbls. **Deepest Hole:** Texas' St. Martin Land Co. 6, 17-8s-7e, abnd 9771 ft. **Oil Outlets:** Barge. **Range of Gravity:** 37.3. **Principal Leaseholder:** The Texas Co.

LAKE MONGOULOUI

In Lake Mongouloui, Section 10-10s-9e. **Means of Discovery:** Torsion balance, Calcasieu Oil Co., 1927; geophysics, The Texas Co., 1934. **Discovery Well:** Texas' State 6, Dec. 26, 1938, 9675 to 9695 ft, 118 bbls distillate daily through 14/64-in choke. Gravity 50.4 deg. **Structure:** Dome. **Producing Formations:** Oligocene, 9675 to 9695 ft; 9952-10 ft. **Average Sand Thickness:** 25 ft. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Daily Production at July 1, 1940:** Shut in. **Production Through June, 1940:** 4731 bbls. **Estimated Reserve:** 995,269 bbls. **Productive Acreage:** 100; 50 developed. **Deepest Hole:** Texas' State 7, dr 10,775 ft, ph, disc new sd 9952-70 ft, Nov., 1939. **Oil Outlet:** None. **Range of Gravity:** 9675 to 9695 ft, 50.4; 9952-70 ft, 60. **Rigs Running, July 1, 1940:** None. **Principal Leaseholder:** Texas Co.

NORTHEAST ST. MARTINSVILLE*

East side Twp 10s-6e, west side 42-10s-7e, 3 mi ne St. Martinsville. **Means of Discovery:** Reflection seismograph, Magnolia Petroleum Co., 1935; Continental Oil Co., 1937. **Extent of Development:** Roper & Todd's Levert 1, 42-10s-7e, drilled to 9029 ft, abnd May, 1939. Well was considered high. Continental took well over and drilled to 10,700 ft, abnd Oct., 1939. **Remarks:** Referred to as St. John Levert Plantation or Pine Alley.

ST. JOHN PLANTATION*

North of Coteau Holmes, Section 24-10s-7e. **Means of Discovery:** Reflection seismograph, Continental Oil Co., 1936. **Extent of Development:** Undrilled. **Remarks:** See Northeast St. Martinsville.

ST. MARTINSVILLE

Sections 18, 57-11s-6e, south of St. Martinsville. **Means of Discovery:** Torsion balance, seismograph reflection and surface geology, Tide Water Associated Oil Co., 1934, 1935. **Discovery Well:** Tide Water's Smede 1, 8.4 bbls per hour, 5582 ft, Nov. 4, 1935. **Structure:** Regarded deep dome. **Producing Formation:** Miocene sands, 5545-5582 ft and 7340 to 7354 ft. **Average Sand Thickness:** 45 ft. **Productive Acres:** 100; 60 developed. **Daily Production, July 1, 1940:** 350 bbls from 2 wells. **Estimated Ultimate Recovery:** 4,000,000 bbls. **Production Through June, 1940:** 1,084,966 bbls. **Indicated Remaining Reserve:** 2,915,084 bbls. **Deepest Hole:** Tide Water's Smedes C-1, dr to 9645 ft in heaving shale, dry, June, 1937. **Oil Outlet:** Standard of Louisiana 3-in. **Range of Gravity:** 5545-82 ft, 32. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Tide Water, Continental Oil Co., Standard of Kansas. **Heaving Shale:** In Oligocene.

SECTION 28†

Sections 28, 29, 32, 33-9s-7e. **Means of Discovery:** Gas, paraffin dirt. Simms-Hager et al's No. 1 found salt at 1250 ft, 1917. **Structure:** Dome; cap rock 1030 ft, salt 1250 ft. **Extent of Development:** Total 16 tests, all dry. **Deepest Hole:** Rycade Oil Corp.'s No. 1, 33-9s-7e, abnd 9411 ft, March, 1940. **Principal Leaseholders:** The Texas Co., Ohio Oil Co., Trans-Continental Oil Co., Shell Oil Co., Wm. Helis. **Remarks:** Also known as Hager.

SPANISH LAKE*

Southwest Twp 11s-6e. **Means of Discovery:** Torsion balance, Humble Oil & Refining Co.; reflection seismograph, Felmont, Continental, and Stanolind. **Extent of Development:** Undrilled. **Principal Leaseholders:** Humble, Felmont, Stanolind, Atlati Oil Co. **Remarks:** See Iberia Parish.

WEST LAKE VERRETT

Section 15-14s-12e. **Means of Discovery:** Reflection seismograph and torsion balance, Shell Oil Co., Tide Water Associated Oil Co., 1936 and 1937. **Discovery Well:** Shell's Burdin 1, Dec. 3, 1938, 8017-20 ft, 17 bbls fluid per hour, 39 percent oil, balance salt water, 14/64-in choke. **Structure:** Believed to be deep dome. **Producing Formations:** Oligocene 8017 to 8057 ft. **Average Sand Thickness:** 12 ft. **Productive Acres:** 100; 40 developed. **Daily Production, July 1, 1940:** 500 bbls from 3 wells. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Production Through June, 1940:** 205,336 bbls. **Estimated Reserve:** 2,794,664 bbls. **Deepest Hole:** Shell's Michel 1, 1-14s-12e, stuck drill pipe 10,495 ft, abnd Nov., 1939, at 11,678 ft. **Oil Outlets:** Barge. **Range of Gravity:** 8017 to 8020 ft, 32.8. **Principal Leaseholders:** Shell, Tidewater Associated Oil Co.

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ST. MARY PARISH

BATEMAN LAKE (Berwick)

South of Morgan City, centering Section 21-16s-12e. **Means of Discovery:** Reflection seismograph, Louisiana Land & Exploration Co., 1929; The Texas Co., 1935. **Discovery Well:** The Texas Co.'s State Bateman Lake 1, Dec. 24, 1937, 350 bbls, 33.3-gr oil daily, 3/16-in choke, from perforations at 10,900-905 ft. **Type Structure:** Dome. **Producing Formations:** Miocene, 10,663-683 ft, 8650-60 ft, 10,891 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 1200; 200 developed. **Daily Production, July 1, 1940:** 1000 bbls from 6 wells. **Estimated Ultimate Recovery:** 8,000,000 bbls. **Production Through June, 1940:** 581,844 bbls. **Indicated Remaining Reserve:** 7,418,156 bbls. **Deepest Hole:** The Texas Co.'s State 1, discovery, drilled to 11,879 ft, pb and comp. 10,900-905 ft. **Oil Outlet:** Barge. **Gravity Oil:** 10,633-683 ft, 43-gr. 8650-85 ft, 43.5-gr; 10,900 to 10,905, 32.3-gr. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholder:** The Texas Co.

BAYOU SALE*

Northwest of Horseshoe Bayou centering Section 13-16s-9e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1937. **Extent of Development:** Undrilled. **Principal Leaseholder:** Humble.

BELLE ISLE†

Sections 1, 2-18s-10e; 25, 36-17s-10e. **Means of Discovery:** Elevation above marsh. Capt. A. F. Lucas found rock salt in first test at 373 ft, Dec., 1896. Oil shows but no production. **Structure:** Salt dome, top cap rock 145 ft, top salt 150 ft. **Extent of Development:** Total 32 tests for sulphur, salt and oil. Latest test, Sun Oil Co.'s Belle Isle 1, 28-17s-10e, dr 11,117 ft, stuck drill pipe, pb 6150 ft, dlg 6497 ft, Sept., 1940. **Remarks:** Salt mining efforts unsuccessful. Sun has lease on 4700 acres around dome.

CHARENTON

East of Charenton and Jeanerette, centering Sections 30, 31-13s-10e, 11, 21, 25, 30-13s-9e. **Discovery Means:** Gas seepage, sulphur water, paraffin beds, torsion balance, The Texas Co. and others. Reflection seismograph, Petty Exploration Co., 1934, for Harry Hanszen. **Discovery Well:** Mike Hogg and Harry Hanszen's Lawes Realty Co. 1, Sept 6, 1936, 21 bbls 34.9-gr oil per hour, 5/16-in choke, 7190-7215½ ft. Was reworked by Pan American Production Co. and made 400 bbls daily at 7198-7203 ft. **Type Structure:** Believed to be dome. **Producing Formations:** Miocene, 865-70 ft; 961 ft; 1043 ft; 1120 to 1161 ft; 1214-32 ft; 1650-54 ft; 1775-87 ft; 1860-2010 ft; 2455-66 ft; 2595 ft; 2620-40 ft; 3940-48 ft; 4955-4980 ft; 5834-44 ft; 6462-6472 ft; 6658-93 ft; 6762-72 ft; 7184-7210 ft; 7869-96 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 750; 620 developed. **Daily Production, July 1, 1940:** 8010 bbls from 168 wells. **Estimated Ultimate Recovery:** 28,000,000 bbls. **Production Through June, 1940:** 5,527,227 bbls. **Indicated Remaining Reserve:** 22,472,773 bbls. **Deepest Hole:** Fifteen Oil Co.'s Brulatour 1, 19-13s-10e, abnd 10,710 ft, July, 1939. **Oil Outlets:** A 4-mi 2½-in line to storage tank on Bayou Teche, then barged. **Gravity Oil:** 1124 to 1128 ft, 1214 to 1221 ft, 1775 to 1789 ft, 20.4-gr; 1860-2000 ft, 21.8-gr to 34.2-gr; 2450-66 ft, 22-gr; 2600 to 2640 ft, 22.6-gr; 3900, 5000, 5834-44, 7100 to 7200 ft, 34- to 36-gr; 6658-93 ft, 43-gr; 6762-72 ft, 37-gr; 7896 ft, 34.3-gr. **Rigs Running, July 1, 1940:** Four. **Principal Leaseholders:** Pan American Production Co., St. Mary Oil Co., De Armand, Knisley Oil Co., Fiffeen Oil Co. **Remarks:** The discovery well had over a dozen shows of oil from 2150 ft to bottom. Pan American purchased 50 percent interest in the field Dec. 7, 1936, consisting of 67 leases or 25,592 acres, and operates the field.

CHILLTRUS ISLAND*

Southeast Belle Isle, centering Section 20-18s-11e. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1936. **Extent of Development:** Undrilled. **Principal Leaseholder:** Sun.

COTE BLANCHE†

Sections 5, 6, 11, 12, 13, 14-15s-7e; 20-15s-6e. **Means of Discovery:** Elevation above marsh. Rock salt discovery by Southern Salt Synd., 1921, no oil. **Structure:** Salt dome; no cap rock, top salt 298 ft. **Extent of Development:** 64 tests, mostly for salt. **Deepest Hole:** Geo. Leeland Co.'s Cafferey 1, 1675 ft. **Principal Leaseholders:** The Texas Co., Humble Oil & Refining Co.

GLENWILD*

Sections 20, 21-15s-12e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1929. Shell Oil Co., reflection seismograph, 1936. Checked by Phillips Petroleum Co., 1938. **Structure:** More probably structure than salt dome. **Extent of Development:** Through 1933, half-dozen tests, all dry, including old shallow holes. **Deepest Hole:** Shell Oil Co.'s Barbour 1, 21-15s-12e, electric device showed 55 ohms and 150 millivolts 10,088-108 ft, gas sand, abnd 10,517 ft, Jan., 1938. Phillips, Whitney Nat'l Bk 1, 13-15s-12e, dr to 11,710 ft, abnd April, 1939. **Principal Leaseholder:** Shell farmed out block to Phillips. Shell dropped acreage in area as rentals came due in 1939. **Remarks:** See Patterson prospect.

HORSESHOE BAYOU

On Horseshoe Bayou, centering Sections 37, 40-17s-19e. **Means of Discovery:** Reflection seismograph, Pure Oil Co., 1929; The Texas Co., 1935. **Discovery Well:** The Texas Co.'s Horseshoe Bayou 1, August 12, 1937, 1152 bbls 39.7-gr oil daily, ¼-in choke, 10,873 ft. **Type Structure:** Believed deep-seated salt dome. **Producing Formations:** Miocene 10,848-895 ft; 11,820-847 ft. **Average Sand Thickness:** 40 ft. **Productive Acres:** 500; 60 developed. **Daily Production, July 1, 1940:** 1200 bbls from 5 wells. **Estimated Ultimate Recovery:** 12,000,000 bbls. **Production Through June, 1940:** 792,472 bbls. **Indicated Remaining Reserve:** 11,207,528 bbls. **Deepest Hole:** The Texas Co.'s Horseshoe Bayou 2, drilled to 12,770 ft, water sand, pb and discovered new sand 11,847 ft, March, 1939. **Oil Outlet:** Barge. **Gravity Oil:** 10,863-895 ft, 39.7; 11,820-847 ft, 48.5-gr. **Rigs Running, July 1, 1940:** One. **Principal Leaseholder:** Texas Co. **Remarks:** At one time discovery well was deepest producing well in the world.

JEANERETTE

Centering Sections 38, 39, 40, 41-13s-9e; 59-13s-8e. **Means of Discovery:** Surface indications, reflection seismograph, Petty Exploration Co., 1935, for Perry Scranton, Harry Hanszen and W. C. Hertel. **Discovery Well:** Herton Oil Co.'s Roane 1, 7512 ft, pb to 7492 ft, 25 bbls per hour, ¼-in choke, December 23, 1935. **Type Structure:** Deep dome. **Producing Formations:** Miocene, 6609 to 6687 ft; 6723 to 6748 ft; 7010 to 7075 ft; 7492 to 7512 ft; 10,132 to 10,142 ft; 9935 to 9960 ft; 10,273 to 10,293 ft; 10,412-424 ft; 10,450 to 10,485 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 250; 230 developed. **Daily Production, July 1, 1940:** 3415 bbls from 24 wells. **Estimated Ultimate Recovery:** 32,000,000 bbls. **Production Through June, 1940:** 8,186,872 bbls. **Indicated Remaining Reserve:** 28,813,128 bbls. **Deepest Hole:** Herton Oil Company's Roanes Sugar Co. 1, 5a-13s-8e, drilled to 11,634 ft, abnd Feb., 1938. **Oil Outlets:** Standard Pipe Line Co.'s 6-in. **Gravity Oil:** 6609 to 6687 ft, 36.5; 6741 ft, 30; 7000 to 7075 ft, 38; 7470 ft, 41.6; 9935 to 9960 ft, 39.5; 10,273-293 ft, 36.6; 10,412-424 ft, 34.6; 10,450 to 10,485 ft, 43.4. **Rigs Running July 1, 1940:** Two. **Principal Leaseholder:** Herton Oil Co.

NORTHEAST BATEMAN LAKE*

Centering Secs. 26, 27-16s-12e. **Means of Discovery:** Seismograph, 1938. **Extent of Development:** Undrilled. **Principal Leaseholder:** The Texas Company, 1200 acres.

PATTERSON*

Section 21-15s-11e. **Means of Discovery:** Torsion balance, Vacuum Oil Co., Empire Gas & Fuel Co., 1929; checked later with seismograph. **Extent of Development:** Empire and Vacuum's Zenor 1, dry 6365 ft, 1930. **Principal Leaseholders:** Shell Oil Co., Phillips Petroleum Co., Sun Oil Co.

WEST COTE BLANCHE BAY

Twnp 16s-7e, in West Cote Blanche Bay. **Means of Discovery:** Geophysics by The Texas Co., 1938. **Discovery Well:** Texas' State 1, flowed 25 bbls 23.2-gr oil, 1,000,000 ft gas daily, 11/64-in choke, 3109-60 ft, two zones, was dr 8685 ft, pb and comp. **Type Structure:** Probable deep salt core. **Productive Acreage:** 200; 40 developed. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Daily Production, July 1, 1940:** 190 bbls from 1 well. **Production Through June, 1940:** 5700 bbls. **Estimated Reserve:** 994,300 bbls. **Deepest Hole:** Discovery well dr 8685 ft. **Gravity:** 23.2. **Oil Outlet:** Barge. **Rigs Running July 1, 1940:** None. **Principal Leaseholder:** Texas Co.

ST. TAMMANY PARISH

COVINGTON-GOODBE*

Sections 9, 10, 20, 21-7s-10e, 28, 33-6s-10e. **Means of Discovery:** Pendulum, Gulf Refining Co., 1935. **Extent of Development:** O. Phillip's Stevenson 1, perforated 1344-55 ft, gas, March 4, 1938; pressures went up to 50 pounds, died and abnd. Stevenson 2, drill-stem test 1489 to 1509 ft showed fresh water, May, 1938. Plauche 1, 28-6s-10e, abnd in sticky shale, 3118 ft, Aug. 1938.

NORTH SLIDELL*

Sections 26, 36, 44-9s-14e. **Means of Discovery:** Seismograph. **Extent of Development:** Danciger Oil & Refining Co.'s Holdsworth 1, 26-9s-14w, show dead oil 3995-4003 ft, slight cut 2397-2424 ft, abnd 6053 ft, Feb., 1936. LeRoy A. Guidry's Conulitte Shipbuilding 1, 44-9s-14e, abnd 1013 ft, Nov., 1939. **Remarks:** Humble Oil & Refining Co. has 15,000 acres centering around 33-8s-15e. Also 6-7-8-9s and 11-14e. Supposed to be dome in this area.

SLIDELL*

Section 24-9s-15e, on Louisiana-Mississippi line. **Means of Discovery:** Torsion balance, reflection seismograph, Gulf Oil Corp., 1934. **Extent of Development:** Undrilled.

TERREBONNE PARISH

BAY ST. ELAINE

Sections 8, 13, 17, 18, 20-22s-18e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1927. **Discovery Well:** Texas' Bay St. Elaine (Bay Coon Road) 1, 15 million feet gas at 680 ft, May, 1929. Texas' Bay St Elaine 7, 30 bbls daily, 2721 ft, March, 1934. It later died. Texas' State 14, 20-22s-18e, Aug. 1, 1937, 1004 bbls daily, 29.5-gr, ⅜-in choke, 5643 ft. **Structure:** Dome, cap rock 710 ft, salt 1463 ft. **Producing Formations:** Gas from Pliocene, 680 and 791 ft, oil from Pliocene-Miocene, 2721 ft. Miocene at 5573 to 5643 ft. **Average Sand Thickness:** 85 ft. **Productive Acres:** 1175; 260 developed. **Daily Production, July 1, 1940:** 500 bbls from 4 wells. **Estimated Ultimate Recovery:** 7,000,000

• Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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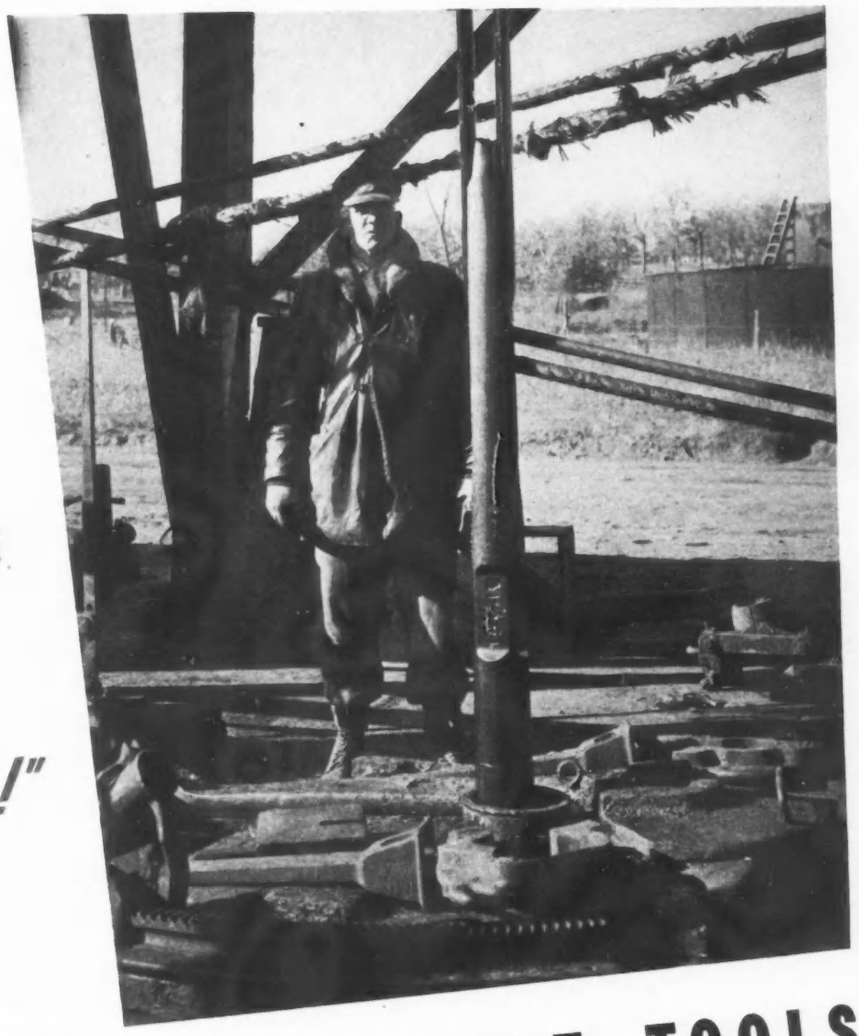

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bbls. **Production Through June, 1940:** 326,501 bbls. **Indicated Remaining Reserve:** 6,673,499 bbls. **Deepest Hole:** Texas' Bay St. Elaine B-3, 13-22s-17e, drilled to 10,513 ft, pb and discovered new sand 6325 ft. **Oil Outlet:** Barge. **Range of Gravity:** 5570 ft, 29.5; 6325 to 6390 ft, 24.7; 6494 to 6502, 6834 ft, 21.5. **Rigs Running, July 1, 1940:** 2. **Principal Leaseholder:** Texas, with sulphur rights subleased to Freeport Sulphur Co. **Remarks:** Known formerly as Bay Coon Road. **Heaving Shale:** Is found under Section 20-22s-18e, around 5900 feet.

BAYOU MONTAGUE*

Section 2-18s-18e. **Means of Discovery:** Gas seeps, paraffin beds, soil analysis, geophysics, Fohs Oil Co., Freeport Sulphur Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholders:** Freeport, Fohs, Humble Oil & Refining Co., Barnsdall Oil Co.

CAILLOU BAY-COON POINT

2½ mi from United States Coast & Geodetic monument at Coon Point on Derniere Island in 22s-14e. **Means of Discovery:** Reflection seismograph, The Texas Co., 1937. **Structure:** Dome, topped 4922 ft. **Extent of Development:** Texas' State Coon Point 1 cored sand showing oil 3809 to 3817 ft and from 3959 to 3996 ft and from 4390 to 4395 ft. Was abnd in salt at 4922 ft, August, 1938; State 2, abnd 6716 ft, June, 1939; State 3, 8488 ft, salt, top 8475 ft, abnd Oct. 1939; State 4, abnd 10,210 ft in salt topped 9777, Feb., 1940; State 5, drlg 9528 ft, no shows, Sept. 10, 1940. **Principal Leaseholder:** Texas.

CAILLOU ISLAND

Sections 17, 18, 19, 20-23s-20e. **Means of Discovery:** Refraction seismograph, Louisiana Land & Exploration Co., 1928. **Discovery Well:** Texas Co.'s Caillou Island 2, Section 18, 1100 bbls 28-gr oil daily, 3239 ft, January 24, 1930. **Structure:** Dome, cap rock 2741 ft, salt 4092 ft. **Producing Formations:** Miocene at 3239 to 4981 ft, 5873-5940 ft, 5981 ft, 6094 ft, 6470-6497 ft, 6620 to 6648 ft, and 6816 to 6840 ft. **Average Sand Thickness:** 90 ft. **Productive Acres:** 500; 390 developed. **Daily Production, July 1, 1940:** 6380 bbls from 45 wells. **Estimated Ultimate Recovery:** 92,500,000 bbls. **Production Through June, 1940:** 29,107,079 bbls. **Indicated Remaining Reserve:** 63,392,921 bbls. **Deepest Hole:** Texas Co.'s Terrebonne Bay 2, discovery well for new sand, comp 6862 ft, April, 1936. **Oil Outlet:** Barge. **Range of Gravity:** 3200 ft, 28; 3700 ft, 24.9; 3800 to 3900 ft, 31; 4150 ft, 32.2; 4200-4400 ft, 36 to 38; 4600 to 5800 ft, 36 to 39; 6470-6497 ft, 42; 6850 ft, 35. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholder:** Texas Co. **Remarks:** Was called Timbalier Bay. **Heaving Shale:** Found in Section 19 around 5418 ft.

CASTELL*

Section 30-17s-14e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1935. **Extent of Development:** Humble's Continental Land & Fur Co. 1, top pyrite 6792 ft, drilled to 10,254 ft, abnd Sept., 1936. **Principal Leaseholder:** Humble. **Remarks:** Sometimes known as Amelia.

CROOKED BAYOU*

Section 28-18s-17e. **Means of Discovery:** Geophysics. **Extent of Development:** Undrilled. **Principal Leaseholders:** Sun Oil, Continental Land and Fur Co. **Remarks:** Sometimes known as Deer Island.

DOG LAKE

Sections 5, 6-22s-16e; 31, 32-21s-16e. **Means of Discovery:** Refraction seismograph, Louisiana Land & Exploration Co., 1927. **Discovery Well:** Texas Co.'s Dog Lake Bayou A-1, 15 bbls, 1062 ft, May, 1929. **Structure:** Dome, cap rock 1506 ft, salt 1730 ft. Reported 2 miles in diameter. **Producing Formations:** Pliocene at 1062 ft, Miocene 6700-6722 ft, 6821 to 6877 ft, 7065 to 7128 ft, 7285-7335 ft. **Average Sand Thickness:** 12 ft. **Productive Acres:** 100; 60 developed. **Daily Production, July 1, 1940:** 715 bbls from 8 wells. **Estimated Ultimate Recovery:** 10,000,000 bbls. **Production Through June, 1940:** 1,843,677 bbls. **Indicated Remaining Reserve:** 8,156,323 bbls. **Deepest Hole:** Texas Co.'s State Dog Lake 3, 5-22s-16e, quit at 8165 ft, July, 1936. **Oil Outlet:** Barge. **Range of Gravity:** 6870 ft, 40; 7065 ft, 39.5; 7104 ft, 38; 7285 ft, 32.2. **Rigs Running, July 1, 1940:** One. **Principal Leaseholder:** Texas Co. **Remarks:** Texas Co.'s State 18, Section 5-22s-16e, discovered a new sand Dec., 1935, at 7128 ft. **Heaving Shale:** Has been found under Section 5-22s-18e.

EAST BAY JUNOP†

Sections 21, 22, 27, 28-21s-14e. **Means of Discovery:** Refraction seismograph, Louisiana Land & Exploration Co., 1927. **Structure:** Dome; cap rock, 5077 ft, salt found in only one test, 7000 ft. **Extent of Development:** Eight tests, all dry. **Deepest Hole:** Texas Co.'s State Bay Junop B-6, 34-21s-14e, quit at 7840 ft in salt, June, 1935. **Principal Leaseholder:** Louisiana Land & Exploration Co. **Remarks:** Also known as Bay Junop, Taylor Bayou.

FOUR ISLE**

Sections 13, 14, 24, 26, 23-21s-16e. **Means of Discovery:** Refraction seismograph, Louisiana Land & Exploration Co., 1927. **Discovery Well:** Texas Co.'s Four Isle 4, 2230 bbls daily, 5639 ft, Nov. 21, 1934. **Structure:** Piercement type dome, cap rock 557 ft, salt 1381 ft. **Producing Formations:** Miocene at 5518-5570 ft; 5611-5639 ft. **Average Sand Thickness:** 30 ft. **Productive Acres:** 15. **Daily Production, July 1, 1940:** None (field abandoned). **Estimated Ultimate Recovery:** 283,162 bbls. **Production Through June, 1940:** 283,162 bbls. **Indicated Remaining Reserve:** None. **Deepest Hole:** Texas Co.'s State 9, 26-21s-16e, dr to 10,725 ft, pb 6965 ft, abnd April, 1938. **Oil Outlet:** Barge. **Range of Gravity:** 5518-70 ft and 5611 to 5639 ft, 44. **Rigs Running, July 1, 1940:** None. **Principal Leaseholder:** The Texas Co.

GIBSON

Sections 17, 18, 19, 20, 30, 40-17s-15e. **Means of Discovery:** Reflection seismograph, Barnsdall Oil Co., Shell Oil Co., 1936. **Discovery Well:** Shell and Barnsdall's Realty 1-B, Feb. 20, 1937; 781 bbls, 38.1-gr oil daily, ¼-in choke, from 9493 ft. **Type Structure:** Dome. **Producing Formations:** Lower Miocene, 8639-8642 ft; 8883-8888 ft; 9461 to 9513 ft. **Average Sand Thickness:** 20 ft. **Productive Acres:** 305. **Daily Production, July 1, 1940:** 3520 bbls from 14 wells. **Estimated Ultimate Recovery:** 18,000,000 bbls. **Production Through June, 1940:** 3,188,319 bbls. **Indicated Remaining Reserve:** 14,811,631 bbls. **Deepest Hole:** Kuntz 1, s of prod, drilled to 10,752 ft, made tests up hole, finally comp 8883-8888 ft, discovered new sand, made 70 bbls per hour, 12 percent 37.7-gr oil, 88 percent salt water, Nov., 1938. **Oil Outlets:** Shell Pipe Line Co., 4-in to Black Bayou, then barge. **Gravity Oil:** 37.7, 45.6. **Rigs Running, July 1, 1940:** 1. **Principal Leaseholders:** Shell, Barnsdall.

HOUMA TOWNSITE*

Sections 102, 103-17s-17e. **Means of Discovery:** Geophysics, 1930; reflection seismograph, Barnsdall Oil Co., Shell Oil Co., 1934-35. **Extent of Development:** Louisiana Gas & Fuel Co.'s Minor 1, had gas show 1500 ft, quit at 6500 ft, 1931. Shell's Realty Co. 1, abnd 10,157 ft, March, 1936. John P. Bech's Realty Operators 1, 102-17s-17e, gas sand 1365 ft, set csg perforated 1353-63 ft, made 500,000 cubic ft gas daily, Sept., 1936. **Principal Leaseholders:** Shell, Humble Oil & Refining Co., The Texas Co.

JUG LAKE*

Section 32-19s-15e. **Means of Discovery:** Geophysics, Fohs Oil Co., 1938. **Extent of Development:** Continental Oil Co.'s Peters 1, 32-19s-15e, dry at 12,080 ft, Dec., 1939. **Principal Leaseholders:** Fohs, Continental.

LAKE BARRE

Sections 36, 37, 38, 39, 40-21s-19e; 30-21s-20e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1928. **Discovery Well:** Texas Co.'s Lake Barre A-2, 70 bbls hourly, 3849 ft, Sept., 1929. **Structure:** Dome, cap rock 750 ft, salt 852 ft. **Producing Formations:** Miocene-Pliocene at 3645 to 3980 ft, 10,460-10,520 ft. **Average Sand Thickness:** 75 ft. **Productive Acres:** 400; 320 developed. **Daily Production, July 1, 1940:** 920 bbls from 22 wells. **Estimated Ultimate Recovery:** 24,000,000 bbls. **Production Through June, 1940:** 17,412,250 bbls. **Indicated Remaining Reserve:** 6,587,750 bbls. **Deepest Hole:** Texas Co.'s State 42, 40-21s-19e, dr to 11,333 ft in salt, topped 11,301, set 7-in csg 11,301 ft, perf 10,460-10,520 ft, discovered new sand, Nov, 1938. **Oil Outlet:** Barge. **Range of Gravity:** 3750 ft, 31; 3850 ft, 27. **Rigs Running July 1, 1940:** None. **Principal Leaseholder:** The Texas Co.

LAKE DE CADE*

Sections 24, 29-18s-14e, n of Lake De Cade. **Means of Discovery:** Reflection seismograph, Texas Co., Humble Oil & Refining Co. and Shell Oil Co., also worked in area, 1934. **Extent of Development:** Texas Co.'s Continental Land & Fur Co., 29-18s-14e, abnd 10,483 ft, Feb., 1939. **Principal Leaseholder:** The Texas Co. **Remarks:** Also known as Bayou Penchant.

LAKE PELTO

Sections 12-17s-18e; 7, 8, 9, 17, 18-23s-18e. **Means of Discovery:** Refraction seismograph, Louisiana Land & Exploration Co., 1928. **Discovery Well:** Texas Co.'s Lake Pelto B-1, 400 bbls, 1391 ft, July, 1929. **Structure:** Dome, cap rock 2801 ft, salt 2859 ft. **Producing Formations:** Pliocene 1250 to 1288 ft, 1350 ft, and 1733 to 1765 ft; Miocene 5000 to 5150 ft, 5104 to 5170 ft, 5231 to 5239 ft, 5420-65 ft, 6058 to 6088 ft, 6105-6135 ft, 6185 to 6220 ft, 6248 to 6275 ft, 6440 to 6475 ft, and 6648 to 6686 ft. **Average Sand Thickness:** 55 ft. **Productive Acres:** 110; 90 developed. **Daily Production, July 1, 1940:** 1450 bbls from 13 wells. **Estimated Ultimate Recovery:** 7,500,000 bbls. **Production Through June, 1940:** 1,819,853 bbls. **Indicated Remaining Reserve:** 5,680,147 bbls. **Deepest Hole:** Texas Co.'s State 14, oil well, 6686 ft, after pb from 7344 ft. **Oil Outlet:** Barge. **Range of Gravity:** 1389 ft, 17; 5231, 26; 5000 to 5150 ft, 28.6; 5400, 6050, 6250, 6500 ft, 36; 6650 ft, 40.7; 6105-6135 ft, 27.6. **Rigs Running, July 1, 1940:** 2 lcn. **Principal Leaseholder:** The Texas Co.

LA TERRE (Bay Baptiste)*

Section 41-19s-19e. **Means of Discovery:** Reflection seismograph, Fohs Oil Co., 1936. **Extent of Development:** Fohs' State 1, se of Lirette, dr to 13,409 ft, pb and comp 11,172-11,178 ft. **Principal Leaseholders:** Fohs, Shell Oil Co. **Remarks:** See Lirette.

LIRETTE–HOUMA GAS FIELD

South of Houma. Gas development centered around Sections 5, 6, 7, 41-19s-19e. Oil development around Sections 23, 31, 32, 41-19s-19e. **Means of Discovery:** First gas seepage and other surface indications. Later Adams Royalty Co. and Humble Oil & Refining Co. worked on the flanks with reflection seismograph and torsion balance in 1935. Se of field Fohs Oil Co. worked with reflection seismograph, 1936. **Discovery Well:** No records were taken of the first gas production but the area did furnish the supply for the town of Houma. This has been depleted. Over 30 wells were drilled in the district. First oil well was Humble's Ellender 1, perforated 11 shots 11,620 to 11,630 ft, May 11, 1937, 40 bbls per hour 39 gr oil, started making 25 percent salt water. Killed and perforated May 18, 1937, with 9 shots from 11,610 to 11,615 ft and May 20 made 35 bbls per hour, 37.5-gr oil through ¼-in choke. Started making salt water and was pb and comp at 10,525, making gas and distillate, Oct., 1937. **Type of Structure:** Dome. No salt has been reached. **Producing Formations:** Gas from Pliocene 2300 to 3000 ft; oil from Miocene 8360-8370 ft, 8450-8460 ft, 10,525 ft, 11,172-11,178 ft, 11,610 to 11,630 ft. **Average Sand Thickness:** 25 ft. **Productive Acres:** 320. **Daily Production, July 1, 1940:** Gas from 3 wells. **Estimated Ultimate Recovery:** 357,000 bbls. **Production Through June, 1940:** 39,539 bbls. **Indicated Remaining Reserve:** 317,461 bbls. **Deepest Hole:** Fohs

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OF NEW ORLEANS

Established 1883

AT THE CLOSE OF BUSINESS SATURDAY, JUNE 29, 1940

RESOURCES		LIABILITIES		
Cash and Due from Banks	$ 63,330,756.53	Deposits		$146,203,631.81
U. S. Government Obligations, Direct and Fully Guaranteed	44,718,825.49	Acceptances Account of Customers and Letters of Credit		464,299.49
State, County and Other Public Bonds	10,450,465.12	Dividend Declared, Payable July 1, 1940		84,000.00
Other Bonds and Securities	951,013.58	Accrued Interest, Expenses and Reserves		144,912.12
Loans, Discounts and Acceptances	31,600,536.23	Capital	$2,800,000.00	
Customers' Liability Account of Acceptances and Letters of Credit	308,938.19	Surplus	4,200,000.00	
Stock of Federal Reserve Bank	210,000.00	Undivided Profits	3,245,642.23	
Accrued Income Receivable and Prepaid Expenses	560,897.57	Reserve for Dividend Not Declared	168,000.00	10,413,642.23
Banking House, Furniture and Fixtures	3,374,782.21			
Branch Banking Houses	996,204.52			
Other Real Estate	808,066.21			
TOTAL	$157,310,485.65	TOTAL		$157,310,485.65

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800 Walters Street

DANVILLE ILLINOIS

Oil Co.'s State Bay Baptiste 41-19s-19e, dr to 13,409 ft, pb comp 11,172-11,178 ft; 55 bbls, 49.5-gr daily, 2,500,000 ft gas. Humble's Ellender 1, shows 8100 ft, 8194 ft, 8385 ft, 8450 ft, set 9⅝-in at 8735 ft, longest string of this size in world at this time; odor gas 9200 ft; cored broken formations with shows 10,794 to 10,846 ft; 7-in set at 12,097 ft, longest string of this size at time; reached 12,165 ft; perforated 12,013 to 12,018 ft, only one shot went off out of 11; well showed salt water; pb and tested 11,620 to 11,630 ft, made oil, gas and salt water. Casing pressure 5000 pounds; killed and was tested again and finally comp at 10,525 ft. **Oil Outlet:** Barge. **Gravity Oil:** 8395 ft, 50.5; 8450-8460 ft, 47.7; 11,610 to 11,630 ft, 35 to 39. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Humble, Gulf Oil Corp., United Production Co. and Fohs. **Remarks:** Lirette at one time was the deepest producing field in the world and set many records while drilling to 12,165 ft. Fohs' development s of field is called Bay Baptiste. It was worked by reflection seismograph in 1936.

MINERVA*

Section 9-16s-16e. **Means of Discovery:** Geophysics. **Extent of Development:** John Vocarro et al's Rebecca 1, 93-16s-16e, abnd May, 1940. **Principal Leaseholders:** W. T. Bavers, Barnsdall Oil Co., J. R. Land. Johnson & Johnson.

MINOR*

Sections 3, 10-18s-16e. **Means of Discovery:** Seismograph, United Gas Public Service Corp., 1931. Geophysical work by Shell Oil Co. **Structure:** Appeared structure-type like nearby Houma gas field rather than dome. **Extent of Development:** United's Minor Estate 2, had gas show 3875 ft, quit 6002 ft, 1932. Shell's Realty Operators 1-C, 10-18s-16e, dry at 11,208 ft, Aug., 1938. **Remarks:** See Houma Township; sometimes referred to as Lake Hatch.

NORTH BOURG*

Sections 36, 41-17s-18e. **Means of Discovery:** Reflection seismograph, Barnsdall Oil Co., 1937. **Extent of Development:** Barnsdall's Barrow 1, 41-17s-18e, cored water sands 10,450 to 10,530 ft after having fair gas show at 9211 ft, abnd 10,785 ft, Aug., 1938. **Principal Leaseholder:** Barnsdall.

NORTH GIBSON*

Section 110-16s-15e. **Means of Discovery:** Reflection seismograph, Barnsdall Oil Co., and Sun Oil Co., 1936. **Extent of Development:** Barnsdall's Dibert, Stark and Brown 1, dry at 10,777 ft, Nov., 1937. **Principal Leaseholders:** Barnsdall, Sun.

POINTE AU FER*

Section 2-21s-11e, adjoining Atchafalaya Bay and Gulf of Mexico. **Means of Discovery:** Torsion balance, Freeport Sulphur Co., 1930, and checked later with seismograph. Barnsdall spent several months working area with reflection seismograph, 1939. Barnsdall's Nelson Development Co. 1, Pointe Au Fer, abnd at 11,700 ft after several shows at 7400 ft. Several attempts to complete. **Extent of Development:** Freeport's Nelson 1, quit at 6023 ft, 1930; no important showings. **Principal Leaseholder:** Barnsdall.

SOUTH DULAC*

Section 25-20s-16e. **Means of Discovery:** Reflection seismograph, California Co., 1937. **Extent of Development:** Undrilled. **Principal Leaseholder:** California Co.

SOUTH HOUMA

Section 73-18s-18e. **Means of Discovery:** Reflection seismograph, Shell Oil Co., 1936-1937. **Discovery Well:** Shell's Peters 1, Nov. 13, 1938, Miocene sands 10,300 to 10,308 ft, 18½ bbls 36.9-gr oil per hour through a 11/64-in choke, tp 3100 pounds, cp 3300 pounds. **Structure:** Believed to be deep dome. **Producing Formations:** Miocene sands 10,300 to 10,310 ft. **Average Sand Thickness:** 15 ft. **Estimated Ultimate Recovery:** 3,000,000 bbls. **Daily Production, July 1, 1940:** 400 bbls from 2 wells. **Production Through June, 1940:** 260,755 bbls. **Estimated Reserve:** 2,739,245 bbls. **Productive Acreage:** 200; 50 developed. **Deepest Hole:** Shell's Peters 4, 72-18s-18e, abnd 11,344 ft, 1939. **Oil Outlets:** Barge. **Range of Gravity:** 10,300 to 10,310 ft, 36.9. **Principal Leaseholder:** Shell.

WEST DULAC (De Large)

Section 77-19s-17e. **Means of Discovery:** Reflection seismograph, Fohs Oil Co., 1936 and 1937; soil analysis, 1939. **Discovery Well:** Fohs Oil Co.'s Buckley Bourg 1, 50 bbls 47-gr distillate daily, 350,000,000 ft gas daily open flow, June 18, 1938, 13,254 to 13,266 ft. Was killed and comp. June 27, 1938, 125 bbls 47-gr distillate daily, 12/64-in choke, tubing pressure 4100 lbs. **Type Structure:** Anticline. **Producing Formations:** Miocene, 13,205 to 13,266 ft. **Average Sand Thickness:** 80 ft. **Productive Acres:** 100; 20 developed. **Daily Production, July 1, 1940:** 175 bbls from 1 well. **Estimated Ultimate Recovery:** 1,000,000 bbls. **Production Through June, 1940:** 87,152 bbls. **Indicated Remaining Reserve:** 912,848 bbls. **Deepest Hole:** Fohs' Bourg 1, dr to 13,333 ft. **Oil Outlet:** Barged to Houston, Texas. **Gravity Oil:** 13,254 to 13,266 ft, 50-gr. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Fohs, De Large Oil Co. **Remarks:** The discovery well is the deepest producing well in the world. Set several records; first 13,200-ft production in South Louisiana.

WASHINGTON PARISH

WARENTOWN*

Centering Sections 1 and 2s-10 and 11e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1938. **Extent of Development:** Undrilled. **Principal Leaseholder:** Humble.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

VERMILION PARISH

ABBEVILLE

Centering Sections 17, 20, 66, 67-12s-3e. **Means of Discovery:** Geophysics, Humble Oil & Refining Co., Atlantic Oil Producing Co., 1929; reflection seismograph, Stanolind Oil & Gas Co., 1935; Gulf Oil Corp. and Continental Oil Co. worked area with reflection seismograph in 1934-35. **Discovery Well:** Continental's Hebert 1, March 14, 1937, 25 bbls distillate daily from perforations at 7666-75 ft. First commercial producer was Continental's Brookshire 1, 20 bbls, 41.5-gr oil per hour, 3/16-in choke from perforations at 7884-90 ft, November 4, 1937. **Type Structure:** Faulted dome. **Producing Formations:** Miocene at 6424-28 ft; 7666-7701 ft and 7870-90 ft, 10,318-326 ft, 10,506-535 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 160. **Daily Production, July 1, 1940:** 545 bbls from 11 wells. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Production Through June, 1940:** 504,919 bbls. **Indicated Remaining Reserve:** 1,495,081 bbls. **Deepest Hole:** Continental's Hebert 1, 7-in 10,947 ft, dr to 12,216 ft, showed high gas pressure at 11,735 and 12,000 ft, pb and made several tests and finally completed at 7675 ft. **Oil Outlets:** Short 4-in line to river, then barge. **Gravity Oil:** 7884-90 ft, 41-55; 7666, 66; 6424-28 ft, 38.9; 10,318-326 ft, 10,506-26 ft, 55. **Rigs Running, July 1, 1940:** None. **Principal Leaseholders:** Continental, Stanolind. **Remarks:** This prospect was originally owned by Atlantic Oil Producing Co. and was assigned to Continental.

ANDREWS*

Sections 14, 15, 22, 23-11s-2e. **Means of Discovery:** Reflection seismograph, Gulf Oil Corp., 1934. Perry Scranton, 1935. **Extent of Development:** Undrilled. **Principal Leaseholder:** Perry Scranton.

COW ISLAND*

Centering Section 33-13s-1e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1937. **Extent of Development:** Undrilled. **Principal Leaseholder:** Humble.

EAST GUEYDAN*

East of Gueydan field, centering Section 27-11s-1e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1937. **Extent of Development:** Undrilled. **Principal Leaseholder:** Humble.

ERATH

Southwest of Erath, Sections 16, 21, 22, 41-13s-4e. **Means of Discovery:** Reflection seismograph, The Texas Co., Drunella Oil Co., Tide Water Associated Oil Co., 1936. Torsion balance, De Soto Oil Co., 1938. **Discovery Well:** The Texas Co.'s Vermilion Parish School Board 1, 16-13s-4e, 81 bbls 40.3-gr oil 18 hours through 12/64-in choke, tp 3510 lbs, perf 11,378-388 ft. Total depth 11,762 ft in sidetracked hole. **Type Structure:** Probable deep dome, although no core to 11,762 ft. **Producing Formations:** Oligocene sands, 11,378-388 ft. **Productive Acreage:** 600 acres, 40 developed. **Estimated Ultimate Recovery:** 2,400,000 bbls. **Daily Production, July 1, 1940:** 70 bbls from 1 well, gas-distillate. **Deepest Hole:** G. H. Vaughn's Fee 1, 49-13s-4e, abnd 11,991 ft, May, 1940. **Gravity:** 40.3 gas-distillate. **Principal Leaseholders:** Humble Oil & Refining Co., The Texas Co., Phillips Petroleum Co., Atlatl Royalty Co. **Remarks:** To date discovery is only producer, with dry holes to north (Strake Petroleum Corp.) and southeast (G. H. Vaughn). At Sept. 10, 1940, Humble was drilling School Board 1, ½ mi w discovery, at 11,200 ft.

GUEYDAN

Sections 27, 34-11s-1w. **Means of Discovery:** Refraction seismograph, Pure Oil Co., 1929. **Discovery Well:** Pure's Alliance 2, 200 bbls, 3552 ft, April, 1932. Later deepened, 800 bbls, 4009-29 ft. **Structure:** Dome, top anhydrite 4772 ft, salt 5800 ft. **Producing Formations:** Miocene at 3532-65 ft and at 3988-4299 ft. **Average Sand Thickness:** 30 ft. **Productive Acres:** 100; 50 developed. **Daily Production, July 1, 1940:** 420 bbls from 5 wells. **Estimated Ultimate Recovery:** 2,000,000 bbls. **Production Through June 1, 1940:** 1,095,728 bbls. **Indicated Remaining Reserve:** 904,272 bbls. **Deepest Hole:** Pure's Alliance 6, dr to 9543 ft, pb 5200 ft, dr 6301 ft, pb 5722 ft, abnd, Feb., 1936. **Outlet:** Pure Pipe Line Co.'s 8-in to Inter-Coastal Canal, barge. **Range of Gravity:** 3550 and 4050 ft, 28; 4161 ft, 30. **Rigs Running, July 1, 1940:** One. **Principal Leaseholder:** Pure Oil Co.

INTERCOASTAL CITY

Sections 65, 88, 89-14s-3e. **Means of Discovery:** Reflection seismograph, torsion balance, Stanolind Oil & Gas Co., 1935, 1936, 1937. **Extent of Development:** Stanolind's Fred Stovall 1, 13⅜-in csg 1980 ft, dr open hole to 12,128 ft, abnd Jan. 29, 1937; same operator's Fred Stovall 2, 88-14s-3w, dry at 8404 ft, Oct., 1938. **Principal Leaseholder:** Stanolind, dropped leases in 1939. **Remarks:** Stanolind's well held record for open hole.

SCHOONER BAYOU

Sections 8, 9, 10, 17-15s-1e. **Means of Discovery:** Seismograph, Louisiana Land & Exploration Co., 1929, Gulf Oil Corp., Shell Oil Co., Humble Oil & Refining Co., 1929-35. **Discovery Well:** Union Oil Co. of California's White Hrs. 1, 17-15s-1e, taken over from LL&E Co. at 8900 ft, flowed 230 bbls 32-gr oil daily, ¼-in choke, tp 3000 pounds, perf 10,536-542 ft. On electric log production zone registered strong kicks, was confirmed by dst rec 4700 ft oil in 45 min, July 18, 1940. **Type Structure:** Probably deep dome. **Estimated Ultimate Recovery:** No estimate. **Production Since Discovery:** Gauge oil only. Discovery shut in for lack of outlet. **Gravity:** 32. **Principal Leaseholders:** Union Oil, LL&E,

Humble, Shell. **Remarks:** LL&E Co. turned discovery over to Union of California at 8900 ft. Prior to discovery, LL&E Co. drilled Louisiana Furs 1, 21-15s-1e, abnd 11,033 ft; Louisiana Furs 3, 9-15s-1e, junked 8900 ft.

SOUTHWEST AVERY ISLAND*

Southwest of Avery Island, centering around Section 6-14s-5e. **Means of Discovery:** Reflection seismograph, Fohs Oil Co., 1935 and 1936. **Extent of Development:** Undrilled. **Principal Leaseholder:** Fohs Oil Co. has 10-year paid-up lease on 4000 acres.

WEST GUEYDAN

West of Gueydan field, centering Section 5-12s-2w. **Means of Discovery:** Reflection seismograph, Magnolia Petroleum Co., 1935, Salt Dome Oil Corp., The Texas Co., and Pure Oil Co. worked in the area with torsion balance. **Discovery Well:** Magnolia's Ferguson 1, July 1, 1938, 75 bbls 62-gr distillate and 2,300,000 ft of gas daily from 7150 ft. **Structure:** Dome. **Producing Formation:** Miocene 6685-95 ft, 7140-50 ft. **Average Sand Thickness:** 10 ft. **Productive Acres:** 500; 150 developed. **Daily Production, July, 1, 1940:** 750 bbls from 6 wells. **Estimated Ultimate Recovery:** 1,786,000 bbls. **Production Through June, 1940:** 270,363 bbls. **Estimated Reserve:** 1,515,637 bbls. **Deepest Hole:** Pure's Vermilion Irrigation Co. 1, 41-12s-2w, missed prod sand, abnd 9865 ft, Oct., 1938. **Oil Outlet:** Magnolia's 6-in. **Gravity Oil:** 6685-95 ft, 38.6; 6966-78 ft, 43.2; 7140-50 ft, 62. **Rigs Running, July 1, 1940:** None. **Principal Leaseholder:** Magnolia. **Remarks:** Magnolia's Ferguson 2, discovered 6685-ft sand, July, 1939.

VERNON PARISH

CANEY*

Centering Section 27-2n-11w. **Means of Discovery:** Geophysics, Pan American Prod. Co. **Extent of Development:** Pan American's Post 1, dry 6501 ft, Oct., 1939. **Principal Leaseholders:** Pan American, Henry DeArman, Amerada Petroleum Corp. **Remarks:** Pan American gave DeArman acreage and cash to drill Wilcox test.

FULLERTON*

Near Fullerton, centering 15-1n-6w. **Means of Discovery:** Reflection seismograph, M. Halbouty et al, 1938. **Extent of Development:** Halbouty and Chance's Gulf Lbr. Co. 1, abnd 7202 ft, Aug., 1938, Nat Hunter's Fee 1, abnd 6512 ft, Aug., 1939. W. T. Burton's Fee 1, 32-1n-6w, abnd 9065 ft, Aug., 1939. **Principal Leaseholder:** Halbouty et al. **Remarks:** This prospect was under option at one time to Navarro Oil Co.

WEST BATON ROUGE PARISH

ERWINVILLE*

Near Erwinville, centering Section 25-6s-10e. **Means of Discovery:** Reflection seismograph, Sun Oil Co., 1937. **Extent of Development:** Undrilled. **Principal Leaseholder:** Sun dropped acreage in this area.

MORLEY*

7 mi sw Port Allen, centering Sections 35, 36-7s-11e. **Means of Discovery:** Geophysics, Amerada Petroleum Corp., 1938-39. **Extent of Development:** Undrilled. **Principal Leaseholders:** Amerada, Sun Oil Co., Shell Oil Co.

PORT ALLEN

South of Beaulieu, centering 75-7s-12e and 75-8s-12e. **Means of Discovery:** Reflection seismograph, Humble Oil & Refining Co., 1934, 1937. **Extent of Development:** Humble's Levert 1, 5-8s-12e, dry, 8000 ft, Dec., 1938. **Principal Leaseholder:** Humble. **Remarks:** Humble dropped 1800 acres in area.

WEST FELICIANA PARISH

BRANDON*

Centering T 2s-2w. **Means of Discovery:** Geophysics, Vendome Petroleum Corp. **Extent of Development:** Undrilled. **Principal Leaseholder:** Vendome.

WEYONKA*

Near Weyonka and centering Sections 54-1s-4w, 90-1s-3w. **Means of Discovery:** Torsion balance, Vincent & Welsh, 1937. **Extent of Development:** Southern Minerals Corp.'s Wood 1, stuck drill pipe 1185 ft, abnd April, 1936. Skidded rig 20 ft ne and Wood 3 was abnd at 1600 ft, June, 1936; Donkin & Smith's Montgomery 1, 90-1s-3w, top Wilcox 7730 ft, odor oil 7764 ft, abnd 8505 ft, Aug., 1939. **Principal Leaseholders:** Colonel Morris, California Co., Magnolia Petroleum Co.

* Prospect. † Salt dome, no production. ‡ Gas field. ** Depleted.

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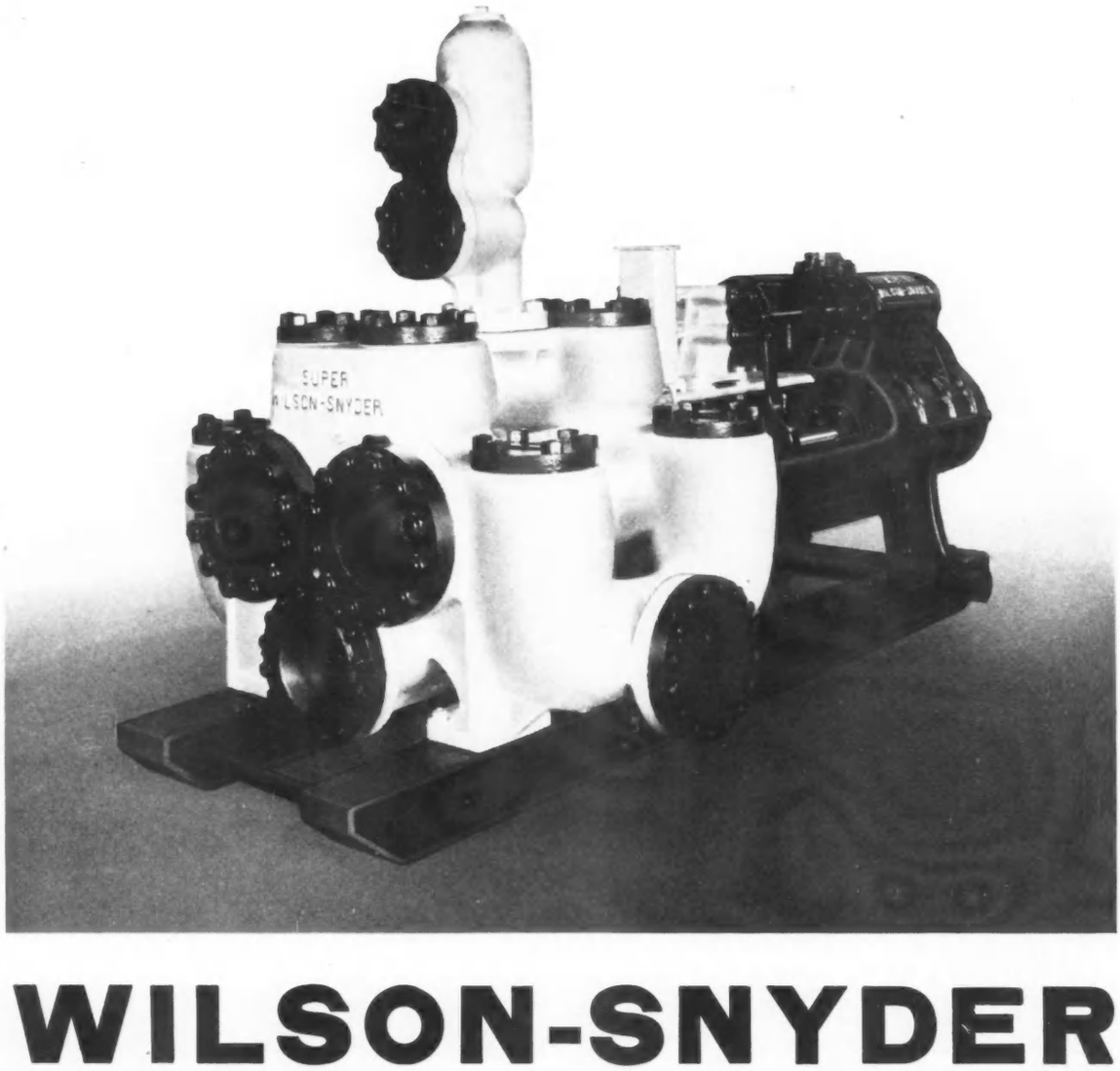

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HIGHLIGHTS IN THE WEEK'S NEWS

Allowables

Bureau Sees October Demand 6 Percent Below Last Year

With exports due to continue at a low level, the United States Bureau of Mines on September 20 forecast that 3,580,600 barrels of domestic crude oil per day would be required to meet market demand in October, 43,700 barrels, or 1 percent under the estimate for September and 6 percent under the actual demand in October, 1939.

Reports from principal shippers, the bureau disclosed, indicate that for the coming month exports of motor fuel will be approximately 1,600,000 barrels, the same as in September but less than half the exports of October of last year, while shipments of crude oil will approach 3,900,000 barrels, also the same as in September but 3,000,000 barrels under the October, 1939, total.

Daily average crude production during the four weeks from August 10 to September 7 was 3,538,000 barrels, and runs to stills for the same period were 3,518,000 barrels, the bureau reported. During the period, domestic crude stocks declined an average of 50,000 barrels daily, indicating a demand of 3,588,000 barrels.

"The reduction in crude demand during the third quarter of 1940 represents a reaction from the relatively high operations of the the second quarter and reflects evidence of further declines in the export markets for refined products due to the pressure of foreign oils that have been left without a market by the blockade of European ports," it was explained.

"The fuel-oil situation has become easier due to a smaller increase in domestic demand than was anticipated and to the expectation of decreased exports and larger imports," the bureau commented. "Stocks of distillate fuel oil have reached a point about 7,000,000 barrels above a year ago, which indicates the possibility of a further curtailment in crude runs during the winter months. This would automatically help to correct the gasoline inventory situation. It may be possible to keep gasoline stocks at a practically stationary level during the last quarter of 1940 as compared with the abnormal increase of almost 12,000,000 barrels in the same period of 1939."

Domestic demand for motor fuel in October was estimated by the bureau as 53,000,000 barrels, or 7 percent higher than the actual for the corresponding month last year.

A reduction of 2,100,000 barrels in stocks was foreseen, the bureau pointing out that stocks of finished and unfinished gasoline were 89,065,000 barrels on July 31, and, according to American Petroleum Institute estimates, about 4,450,000 barrels were withdrawn during August, leaving approximately 84,600,000 barrels at the close of the month compared with 72,335,000 barrels on August 31, 1939.

Benzol production and direct sales of natural gasoline are estimated at 1,320,000 barrels. With allowance for exports, a refinery production of 51,180,000 barrels is indicated, which is distributed among the several districts as follows, in thousands of barrels:

East Coast, 6960; Appalachian, 1820; Indiana-Illinois, 10,920; Oklahoma, 3160; Kansas, 2830; Inland Texas, 3580; Gulf Coast Texas, 12,040; Gulf Coast Louisiana, 1320; Inland Louisiana-Arkansas, 890; Rocky Mountain, 1360, and California, 6300.

Natural gasoline to be blended at refineries was estimated at 8.5 percent of the total refinery production, or 4,350,000 barrels. The yield of straight-run and cracked gasoline was placed at 43.4 percent and, applied to the production of 46,830,000 barrels, gives crude runs of 107,900 barrels, or 3,480,600 barrels daily.

In addition to the allowance for exports, the bureau estimated that crude oil to be used for fuel and losses would increase, estimating it at 2,700,000 barrels. The total demand for domestic crude oil in October, accordingly, was placed at 111,000,000 barrels, or 3,580,600 barrels daily.

Bureau of Mines Forecast of Crude Oil Demand for October

State	Forecast Oct., 1940	Forecast Sept., 1940
Texas	1,305,200	1,320,000
California	583,200	593,000
Illinois	405,200	430,000
Oklahoma	402,500	397,000
Louisiana	274,200	274,700
Kansas	178,700	170,700
New Mexico	104,500	105,300
Wyoming	75,200	75,300
Arkansas	70,700	69,700
Michigan	53,900	55,700
Pennsylvania	45,100	47,600
Montana	17,700	17,700
New York	12,000	13,700
Kentucky	12,200	13,300
Mississippi	9,000	9,700
Indiana	9,300	9,300
West Virginia	9,100	9,000
Ohio	8,000	8,300
Colorado	3,900	4,000
	3,580,600	3,624,300

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Humble Protest on Special Allowable Is Price Cut Threat

A warning that the crude production situation in Texas is rapidly approaching the point where a drop in price of crude may result may be read from correspondence between Harry C. Wiess, president of Humble Oil & Refining Company, and Chairman Lon A. Smith, of the Texas Railroad Commission. The correspondence, consisting of a letter written to the commission by Vice President Hines Baker of the company, a letter from Wiess to Smith, the reply of Smith, and a final letter dated September 16 from Wiess to Smith, deal with exceptions made by the commission, granting additional allowables in various fields following the statewide allowables set at the last statewide hearing.

Humble officials charged September 20 that special increases in allowables had increased the production of Texas to the point where it is now above the United States Bureau of Mines allocation, whereas it was fixed well below the bureau's allowable following the most recent statewide hearing. The bureau's allowable for the state was 1,320,300 barrels per day, whereas company officials say that on September 20 the current production was running between 1,325,000 and 1,330,000 barrels.

The first letter in the correspondence of Baker on August 26, dealt with what Baker termed "glaring inequities existing in allowables as between fields" and suggested that careful consideration be given "to the elimination of such inequities in the September order." The letter was accompanied by a table which showed the allowable in barrels per acre throughout the state.

"We recognize," Baker said, "that the establishment of equity between pools is a difficult matter and that as between pools in different sections perhaps the same yardstick can not always be employed. However, in areas where pools are of the same general character and are producing oil of the same general quality, comparative equity can be established by the adoption of some definite yardstick for use in distributing the total allowable between fields. For example, in the fields mentioned in West Texas and in Southwest Texas, a much closer approach to equity than exists under present orders could be obtained by the use of 50 percent to wells and 50 percent to acreage as the basis of allocation between fields.

"The basis suggested may not be the best basis of allocation between fields," he added. "It has the advantage of simplicity and ease of application and is an extension to fields of a principle recognized in many orders in allocations between properties in the same field. When the figures as to reserves are better known and more generally accepted, their use in an allocation formula between fields would bring about even greater equity."

Wiess Writes Smith

The correspondence released shows no reply to Baker's letter, and on September 12 Wiess addressed a letter to Smith in which, calling attention to a

press release by Smith in which the commissioner had been quoted as saying there were no complaints against the current order of the commission, he registered complaint against several exceptions to the commission's proration order.

"I would like to emphasize the ill effects of the continuance of such policy upon the entire crude oil industry and particularly the marketing of crude oil," Wiess said, adding that his company's handling of crude oil last year amounted to about a fourth of the state's total, and that 64 percent of the oil Humble handles is purchased. He estimated these purchases at about one third of all the "outside oil bought in Texas fields." He said his company had tried to share its markets (through purchasing) on an equitable basis, and that his company had continued to expand its pipe line facilities over large areas.

"This service is essential if all producers are to be served," he said. "It cannot be maintained if competing companies are permitted to secure their needs from selected fields, enjoying excessive allowables."

His letter called particular attention to certain areas—Walnut Bend, Bonita and Rogers & Rogers fields in North Texas. The increases in these fields, he said, all go to one purchaser, Sinclair Prairie Crude Oil Purchasing Company. Prior to closing his letter with the statement that the tendencies toward demoralization were so great that they impelled him to write, he offered the following suggestion:

"It is apparent to all that the administration of conservation is becoming more difficult with the decline in demand, with loss of export business, and with six or seven thousand new wells to serve each year. Practices adequate to meet conditions in the past do not suffice today. It appears that the situation is one which requires (1) the adoption of and adherence to a fixed program of holding the allowable within the Bureau of Mines' findings of market demand for the state as a whole; (2) the adoption of some equitable yardsticks or principles for the allocation of the state's allowable among the fields of the state and the continuous adherence to such principles over a period of time with a view to the establishment of stable producing and purchasing conditions; and (3) immediate cancellation of the exemptions and special orders by which individual fields are enjoying inequitable advantages. When the allowables for the state are fixed as a result of a statewide hearing, in accordance with the yardsticks or principles adopted, they should be adhered to until the next statewide order is entered. It is possible to apply reasonable yardsticks and principles and not leave the distribution of allowable among fields on a purely individual and personal basis."

Smith's Reply

This letter brought a reply from Chairman Smith in which he said that in every instance where the commission had granted an exception permitting an increased field allowable, some company had shown that it had a demand for that particular oil and that no physical waste would result as a result of the increased allowable. He said that no reports had come to the commission of instances where exceptions had been made and on which there had been no market demand, or any physical waste. He added that "we conclude from the present situation that the oil industry is in a fairly good condition . . . I never look into the question of what oil company or corporation is asking for an increase in line with the market demand and physical waste situation."

Smith's letter drew a reply from Wiess on September 16 which again referred to the tables previously supplied the commission by Baker, and said, "The special allowables granted were not for the purpose of equalizing production, but aggravated the condition of inequities already existing by giving favored fields still higher allowables than they previously enjoyed."

He claimed that the action of the commission in making these exceptions, either with or without hearings, created a discrimination in favor of such fields.

"In Subsection 6 of Article 6049D, Vernon's Texas Civil Statutes, it is provided that in allocating or ascertaining the reasonable market demand for the whole state, one pool shall not be discriminated against in favor of any other pool, and it is further provided that the commission shall ascertain the reasonable market demand of each such respective pool as the basis for deter-

[*Continued on page 218*]

Associations

Army-Navy Officers Tell N.P.A. What Defense Wants

Contributions of the petroleum industry in national defense and relation of the industry to government were foremost topics for the annual meeting of the National Petroleum Association at Atlantic City, September 18, 19 and 20. A symposium on fuels and lubricants for national defense the morning of the second day had the benefit of expressions from Commander W. C. Latrobe, United States Navy; Colonel Raymond Marsh, Ordnance Department, United States Army, and Colonel R. N. Atwell, Motor Transport Division, United States Army.

The three gave the industry a common ground for cooperation by recommending the restriction of specifications of fuels and lubricants to fewer grades for military use and the distribution of these grades on a scale to compare with merchandise now provided for the automobile.

Colonel Atwell estimated that an army division under motorized strength will use 15,000 gallons of gasoline daily. Each speaker stressed the trend to Diesel-powered motor units whose complete adoption would reduce fuel requirements to half the gasoline need.

In his paper, "Integration, the Key to Efficiency in the Petroleum Industry," Joseph E. Pogue, vice president of Chase National Bank, New York, pointed out that critics of integration object not so much to integration as to its workings between one phase of the industry and another, such as between marketing and refining.

He defended integration from an efficiency viewpoint with:

"The prime cause for the development of the integrated pattern was the simple economic motive for finding means to reduce the hazards in a speculative enterprise by equalizing the risks inherent in the separate departments of the business, after the analogy of crop diversification in agriculture. The trend toward integration was enhanced by certain technological features of the industry, such as the liquidity and inflammability of the materials which practically necessitated special forms of transportation; the volume of commodities involved which induced the application of mass production principles; the joint product nature of the processed output which required the development of new markets for the unwanted fractions; and the need for reaching the consumer at manifold points of utilization with small deliveries, which prompted specialized marketing facilities. In fine, integration is the resultant of the impact of a wide range of factors, economic, financial and physical, which have made inevitable the development of this convenient operating pattern for utilizing the petroleum resource.

"It might be going too far to say that integration is an absolute necessity in the operation of the oil business, but it is hard to see how this industry could function efficiently without the integrated form."

After showing that integration amounts to cost reduction, he offered this in its behalf:

"Since the features involve cost-reducing factors, it logically follows that the integrated form has resulted in lower prices to the public than would have been possible without it, if indeed the industry could have grown to its present size and serviceability if not unified by the integrate pattern."

In his annual address, N. H. Weber, association president, voiced the opinion that governmental control of the industry will not be required, saying:

"I am confident that no national emergency will arise which will require the government to assume control either of production or prices in any important industry. During the first World War the oil industry was in a much less favorable position to furnish the petroleum products which were so vitally required by our allies, by our own military forces and by our normal domestic commerce. At that time supplies were limited and we had some gasolineless Sundays. Today, our proven reserves and stocks are at an all-time high. We say to our government and to our regular customers: 'Tell us what you need and we will supply it. Tell us where you want it and we will deliver it there. You will have no complaint to make about our prices.'"

Cary R. Wagner, chief chemist for The Pure Oil Company, recommended that the association foster continued research as a part of its effort to expand the market for lubricant oil of the Pennsylvania grade.

All officials of the association were re-elected: N. H. Weber, The Pure Oil Company, president; C. L. Suhr, Pennzoil Company, executive vice president; H. A. Logan, United Refining Company, and Otto Koch, Kendall Refining Company, vice presidents; Herbert G. Eaton, Superior Oil Works, recording secretary; G. B. Hunter, Quaker State Oil Refining Company, treasurer.

NATIONAL DEFENSE

Coordination

Ickes Holds Secret Conference On Oil Defense Coordination

Coordination of the oil industry for the national defense reportedly was the subject of discussion at a highly secret conference this week between Secretary of the Interior Harold L. Ickes and representatives of a number of companies and associations.

All parties attending the meeting were pledged to secrecy, and department officials would say no more than to admit that a conference was held. Secretary Ickes said the discussions did not relate either to production or the Cole bill but when asked if they dealt with defense said he had nothing further to say.

So guarded was comment in Washington that it was not until reports on the meeting filtered out in New York that officials would admit it was concerned with coordination.

These reports indicated that Secretary Ickes had in mind the setting up of an organization to correlate the defense activities of the industry, with himself as administrator assisted by Army and Navy officers. The plan is said to have the support of President Roosevelt and there were suggestions that it would be offered to the industry with the offer that, if accepted, the Department of Justice would withhold its proposed suit.

There was, however, considerable question in Washington as to the accuracy of these reports, and it was indicated that, while the creation of a coordinating committee was discussed, there was no suggestion that it be under government control, a step which would be vigorously opposed by practically all interests in the industry.

The conversations with Secretary Ickes, it was represented, centered around the desirability of having a compact organization to which all problems relating to the defense oil supply could be referred.

That the threat of the new government suit had much to do with the proposal is seen in the complaint of the National Defense Advisory Commission in its report to Attorney General Robert H. Jackson that the filing of the case might logically deter the industry from embarking whole-heartedly in any program worked out by the government which might necessitate joint action by two or more companies.

Whether the industry committee would also include government representatives was not made clear, but it is probable that even if it consisted only of oil men it would need government representatives to present the needs and problems of the military forces.

There has been considerable speculation for some time as to the part Secretary Ickes might play in the defense activities. It was recalled that ever since the invalidation of the NRA he has made repeated efforts to secure federal control, at least of production. He is, further, the best informed man on oil matters among the higher officials of the administration, having been administrator of the NRA petroleum code. So far, however, his name has not been mentioned in connection with defense operations and his contact with the National Defense Advisory Commission, so far as can be learned, has been merely that of the head of one of the departments to which the commission from time to time has applied for information.

Go Signal Given on Humble Toluol Plant

Preliminary steps toward construction of a $12,000,000 plant for manufacture of toluol, used in the manufacture of explosives, at Baytown, Texas, were taken at Washington last week by officials of Humble Oil & Refining Company and national defense officials.

The company has been authorized to proceed with acquisition of a site, materials and equipment pending completion of a formal agreement. Funds for the plant, which will be constructed on a 50- to 60-acre site adjoining the company's Baytown refinery, will be provided by the federal government on the national defense amortization plan. Construction is expected to take a year, and output of the plant will be between 25,000,000 and 30,000,000 gallons a year.

Announcement of the proposal to manufacture toluol was first made in The Lamp, publication of Standard Oil Company of New Jersey, of which Humble Oil & Refining Company is a subsidiary.

"The form of contract submitted by the Humble company is similar to several contracts already entered into by the government for the manufacture of munitions," the announcement said. "Under such a contract, Humble would erect and operate a government plant at cost plus a fixed management fee, or on the same basis would operate a plant previously constructed by the government. The fixed management fee and charges to cover indirect expense not susceptible of appraisal in advance are not stated in Humble's offer, but are left open for determination by the government in keeping with its policy in such matters.

"If the government finds it necessary to provide itself with new sources of this all-important war material, it can recover some toluene in the production of high-octane gasoline. If larger quantities are required they can be obtained synthetically."

Defense Commission to Get Report on Oil Storage

Officials of the National Defense Advisory Commission disclosed last week that a comprehensive report on the storage situation in the petroleum industry is being compiled by Dr. Robert E. Wilson, petroleum adviser to the commission, but that no decision has yet been reached whether the results shall be made public.

The report, it was said, is one of a series which is being prepared by the various advisory members of the commission on conditions in defense "key" industries.

Trust Suit

Defense Commission Asks Halt of Anti-Trust Suit

Responsibility for bringing the proposed new suit against the oil industry last week was laid by the National Defense Advisory Commission squarely in the lap of Attorney General Robert H. Jackson with a sharp warning of the practical certainty that even its filing in court will seriously retard the national defense program.

Declaring that the existing organizational structure of the oil industry "is well adapted to the defense program," the commission submitted a lengthy report to the Department of Justice on the proposals of Assistant Attorney General Thurman Arnold for a suit against the American Petroleum Institute and 22 major oil companies and their subsidiaries and affiliates, in which disintegration of the industry is demanded.

The commission told Jackson it would not suggest the suit be abandoned, but made it clear that effects of its filing would be highly adverse to the defense program and that responsibility for the results would lie, not with the commission but with the government's law-enforcing agency.

So seriously does the commission apparently view the proposed suit that it threw aside secrecy and revealed in considerable detail plans of the Army and Navy for acquisition of petroleum products, both during the defense program and in the event of war. It revealed that the industry will be asked to construct millions of dollars worth of pipe lines with private capital, including a $13,000,000 gasoline line to the East Coast, and disclosed also that some concern is felt over the possibility of a shortage of crudes most suitable for the manufacture of high-octane gasoline and toluol.

The report of the commission, dated September 14, was made public by the Department of Justice September 19 with an explanation that the decision of the attorney general will be announced as soon as the commission's views have been thoroughly studied, probably next week.

While refraining from directly suggesting that the case be dropped, the commission pointed out that its own primary function is to assure and facilitate availability of supplies of materials necessary for defense of the Nation "at the lowest cost consistent with other necessary objectives" and therefore it "would deplore any condition or action leading to a failure of supply of such materials, whether for a short or long time, and whether partial or complete, or leading, among other things, to a lessening of efficiency, waste of natural resources, or any substantial increase in price to the government or to consumers."

All of these effects, it was intimated, are inherent in the department's purpose of reorganizing the oil industry.

However, it was added, the commission "is opposed to monopolistic or conspiratorial price-fixing and to artificial restrictions on supply of materials (except where restrictions on supply are temporarily necessary to promote sound conservation of the Nation's resources under law)."

"Such price fixing and restrictions, al-

ways a threat to the national welfare, are particularly dangerous in time of emergency," it was commented.

In considering the proposed suit, it was explained, the commission emphasized the anticipated effects of granting the government's prayer for relief, rather than the anticipated effects of the filing of the complaint, "largely because the practical result of the suit can be tested only by the objectives of the department as stated in its complaint."

The commission does not have information adequate to justify comment upon the various allegations relating to price fixing and similar abuses in the wholesale and retail distribution of petroleum and petroleum products, it was admitted. "But," the report added, "the commission wishes to assure the attorney general that it will wholeheartedly approve any appropriate legal action brought to eliminate such restraints on competition, where they are proven to exist."

The other provisions of the complaint, particularly the prayer that 22 of the larger integrated companies and their subsidiaries and affiliates be required to divest themselves of their transportation and marketing facilities, "require thorough consideration from the defense viewpoint."

Defense Demands on Oil Industry

"Before considering the effect of such a prayer, we may point out, although we do not propose to emphasize, that the suit has its intangible aspects," the report declared. "Certain demands have been made and others will be made upon the petroleum industry in connection with the defense program. From this industry, and from industry generally, the government expects cooperation, and indeed enthusiasm, in furthering the defense effort. The commission is loath to believe that the members of the industry, or the members of any other industry, would consciously permit any personal resentment to interfere with the vital purchasing functions and supply needs of the government. Yet the commission is aware that any legal action seeking relief as rigorous and comprehensive as the one under consideration, ... has a tendency to becloud relationships between the government and industry. Such considerations, however, are speculative and difficult to appraise with certainty.

"In considering the effect of the prayer for divestiture by the oil company defendants of their transportation and marketing functions, the commission recognizes that, apart from other considerations, the existing organizational structure of the oil industry is well adapted to the defense program," the report continued. "It simplifies problems of supply, and facilitates the making of firm and long-range commitments. Divestiture may entail a loss of technical management and efficiency. The readjustments contemplated by the suit, and the process of habituation under a new set-up, will involve complications and delays. Curbs on capital expansion, certainly during the period when the split-ups are still in contemplation and not yet in effect, must be anticipated. Doubts and uncertainties may arise as to whether a company should undertake capital expansion in properties which may be divested, as to who will be able to afford such expansion (in view of the prospective division of capital resources), and even as to who could appropriately apply for government assistance in such expansion. Eventually the government will of course find some way to assure its supply. But time is precious.

Hinder Defense Program

"The commission finds it impossible to estimate with precision or exactitude the extent to which obstacles to industrial preparation for national defense are presented by the relief prayed for in the complaint. However, the commission does not suggest that the proposed suit should be abandoned. The commission feels it appropriate to point out, nevertheless, that to a greater or less degree certain prayers for relief may hinder the defense program. The commission cannot undertake to meet the burden of proving, with court room evidence and logic, that such hindrances will ensue. But this balancing of national policies and weighing of judgments is particularly a matter for determination by executive officers rather than by judicial bodies accustomed to reliance upon legal precedents. And even where the likelihood of interference with the emergency effort cannot explicitly demonstrated, substantial possibilities should control, especially when these are examined in the light of the rapidly expanding requirements for national defense."

Going into the various issues which the department proposes to raise, the commission did not spare its words in decrying the possible effects upon the defense program.

The proposal that the larger companies be required to divest themselves of all direct or indirect ownership or control of facilities used in marketing petroleum products "may affect the construction of such facilities pursuant to negotiations now under way or in prospect for national defense purposes," it warned.

Army-Navy Want More Pipe Lines

"The proposed divestiture would involve not only local bulk plants, storage facilities and service stations but also trunk marketing facilities such as gasoline pipe lines, barges, tank cars and terminals for petroleum products," it was declared. "At present both the Army and Navy are interested in having private capital construct pipe lines to transport gasoline to the East Coast states without the necessity of the long haul around Florida and up the Atlantic Coast, which in time of emergency might be difficult and in any event would require a large convoy service. Moreover, in time of emergency it would be possible to take a part of the burden of the gasoline deliveries to the East Coast through these gasoline pipe lines and in turn release tankers for the purpose of handling the essential products such as Navy fuel oil which cannot be handled in crude oil or gasoline pipe lines. These gasoline pipe lines would also afford exceptionally desirable locations for some of the reserve stocks of aviation gasoline for both the Army and Navy since deliveries can be made at low cost and removal can be effected readily even in time of emergency. An initial expenditure of approximately $13,000,000 is involved in the gasoline pipe lines now under consideration and it would be desirable to have private capital construct similar equipment for emergency use in other parts of the country.

"With respect to marketing terminals the program of the Army and Navy to care for the greatly increased stocks of aviation gasoline and Navy grade fuel oil has not yet been completely formulated. The Army plans to locate most of its interior reserve storage at points on gasoline pipe lines. Such location of large buried storage facilities would not only be virtually invulnerable but would make it possible to deliver the gasoline to the Army through any of the industry tap points or bulk plants located along the gasoline line or lines to which the Army storage would be connected. In addition, the Navy is giving consideration to the location of some reserve storage adjacent to or connected with petroleum products pipe lines at existing industry terminals. This would greatly reduce the investment in docks, lines, utilizing facilities and so forth and also minimize the labor required to guard and operate these facilities.

More Gasoline Storage

"It is clear that substantial additions to the gasoline pipe line and terminal storage capacity of the industry will be necessary under this program. Arrangements and understandings to secure such gasoline pipe lines and storage may have to be discarded and delayed until the ability to perform is clarified, and later new negotiations begun with new parties if the existing companies are required to divest themselves of such facilities. Moreover, we must take note of the fact that the government may well encounter hesitancies and delays on the part of refiners who are asked to extend their contractual commitments, particularly since substantial investments are necessary to meet anticipated demands and, indeed, are now being requested. Several of the larger oil companies may face financial difficulties due to the impact of the current international conflict on the returns from their foreign properties. And granting the relief prayed for in the draft complaint will of itself diminish the capital resources available for particular products. Even government financing assistance would undoubtedly be delayed pending determination as to the proper identity of the borrower and terms of the loan.

"Another proposal is that companies be prohibited from exchanging gasoline and other petroleum products. As a practical matter this would probably require the scrapping of the Army and Navy plan to insure the ready availability of Navy-grade fuel oil and aviation gasoline at terminal storage points and would increase the cost of such products to the government. In any event this would increase the actual amount of transportation required, which would be highly undesirable in any period of emergency."

Even more unfortunate, it was indicated, would be the results of the department's proposal that the companies be ordered to divest themselves of all direct ownership in the various media of transportation whereby crude oil is brought from the well to the refinery, primarily the crude oil trunk pipe lines and tankers.

Pipe Lines Are Plant Facilities

"Pipe lines today are admittedly utilized as plant facilities of petroleum refineries and afford to refineries of integrated companies the steady supply of crude oil regarded by such companies as essential to low-cost continuous operation," the commission said. "Divestiture of ownership in these facilities might under certain circumstances increase the difficulty of obtaining supplies. Such a potentiality would be particularly disadvantageous with respect to particular types of crude oil, used in the manufacture of high-octane aviation gasoline and toluol specified by the Army and Navy, a shortage of which is indicated by preliminary estimates of experts of the raw materials division of the commission.

"Some expert opinion holds that the divestiture of crude oil pipe lines would lead

to increase of cost to the government or even to the discontinuance in some instances of transportation of crude oil, where the transportation in and of itself is relatively unprofitable. It is similarly suggested that divestiture would delay or discourage construction of new connections. All the larger refineries and many of the smaller ones located on the Gulf Coast or in California have some crude oils available to them from their existing crude oil pipe line connections which would be useful for the production of these special materials. The curtailment or stoppage of the pipe line supply of these crude oils would occasion refiners difficulty in meeting their commitments under government contracts and consequently, the prospect of pipe line divestiture might delay capital investment in necessary facilities to manufacture the refined products."

Problem of Financing

Further, the commission pointed out, the planned divestiture not only may complicate refiners' contractual commitments, but may also intensify the problem of financing certain adidtional crude-oil pipe-line construction designed to safeguard against disruption of transportation in time of emergency, involving the looping of trunk lines and the installation of additional pumping stations, which is contemplated and now under study.

"The commission wishes it to be understood that this general outline of problems to be met in the working out of the defense program does not mean that it in any way endorses the continuance of alleged abuses in crude-oil pipe-line operation," the department was told. "On the contrary, as has been indicated generally, if there are abuses, it favors their elimination, particularly if they result from any illegal combination or conspiracy. However, it does not feel qualified to discuss this phase of the proposed suit.

Capital problems also are presented by the proposal to divorce tanker facilities, it continued, pointing out that a large proportion of the present tanker capacity of about 4,100,000 dead weight tons is approaching the end of the 20-year period of useful life, but adding that while the supply of crude to refineries by tankers must be safeguarded, no absolute shortage of tankers appears foreseeable at the present time since new tankers already under construction plus those now chartered in foreign service which could be put into domestic service would probably meet needs, since the direct needs of the Army and Navy probably would not require a large proportion of the tanker capacity.

But, the report added, "there is in the process of negotiation under the auspices of the Maritime Commission and the Navy Department an arrangement for allocating equitably as between the various companies the burden of supplying tankers to the Navy in time of emergency. If the suit is filed in the manner proposed, negotiations will have to cease. If effect is given to the proposal in the draft prayer, a new program will have to be devised and negotiated with the possibility of increased cost to the government."

The commission paid no regard to the complaint against the American Petroleum Association other than to assure the Attorney General that, in its technical study of defense requirements, it does not have to rely on trade associations for information and contact with their respective industries. However, it was admitted, "it is true, of course, that the Institute provides information on petroleum statistics which are not now available elsewhere, and arrangements would have to be made to supply this need."

The report was equally critical of the department's plans for dealing with production, and sharply warned it to give consideration to the conservation efforts of the state and federal governments.

Hike in Production

So far as the supply of crude is concerned, it was pointed out that military authorities have estimated that during war the need for petroleum products would increase about 25 percent over normal peacetime requirements, so that on the basis of the 1939 consumption of 1,250,000,000 barrels of crude, an emergency would lead to additional needs for somewhat more than 300,000,000 barrels a year. However, it was explained, these estimates were made before the adoption of recent plans for expansion of the air force and extended mechanization of the land forces, and are constantly being revised upwards.

With present reserves of crude estimated at approximately 18,000,000,000 barrels, there is no immediate problem of an overall shortage of the basic raw crude, it was declared, although there may be problems with respect to certain crudes peculiarly valuable for military or naval use.

At the same time, it was emphasized, "the expansion, mechanization and rigorous training of the armed forces would certainly bring about a vast acceleration in the rate of production. If this is not accompanied by sound methods of conservation, a protracted emergency would seriously diminish the oil resources of the country. Sound conservation is of the utmost importance to any adequate defense.

"It must be remembered that the problem of crude reserves is not solely one of the amount of oil in the ground," the commission reminded Jackson. "The effect of increasing production per well would be a lower ultimate recovery. As time goes on, the lifting cost of the crude substantially increases and fewer barrels per day are recovered. Thus, though by simple arithmetic it would appear that the country's reserves are good for more than 10 years under emergency conditions, declining production and higher prices for petroleum products will arrive long before exhaustion of reserves unless the discovery rate is maintained and production is effected with a minimum of waste. The possible adverse effects upon the government and the consumer are clear.

Would Hinder Finding New Reserves

"In recent years, an expanding national demand for petroleum products has been met by the discovery of new sources of petroleum approximately equalling the amount of products consumed per year. It appears vital that this rate of discovery remain unaffected. More and more, the business of prospecting for oil has come to depend on the availability of large capital resources. In the first instance, it seems that reduction of the size of the existing units in the industry will leave less capital available for exploration. Secondly, although the intendment of the draft complaint, and particularly Paragraph 17 of the prayer for relief is not clear, the power of the companies named as defendants to develop additional reserves may be inhibited.

"In addition, a development widely endorsed by federal and state conservation authorities has been the organization of a newly developed oil field on a unit basis. The proposed suit would apparently prohibit such activities many of which are now carried out under the supervision of the Department of the Interior. These unit plans are deemed a major force in conservation since they reduce the number of wells to be drilled, conserve gas or hydrostatic pressure and otherwise conduce towards scientific production. This, of course, means lower investment costs per barrel of ultimate production and insures generally lower production costs and higher ultimate recovery of oil."

Observers in Washington predicted that the department would either drop the case entirely for the time being or modify its complaint so as to present only the price-fixing issues to the court.

Their opinion was based frankly on the fact that the commission's report had been made public. Had the department determined to go through with the case despite opposition, it was suggested, it might well have kept the report confidential, in view of the disclosures therein of plans for developing a defense supply of oil.

Meanwhile, a number of members of Congress who have been urging the filing of the suit and criticising the department for its delay took the position that the case should be brought immediately and held that the danger to the defense program had been exaggerated.

Pipe Lines

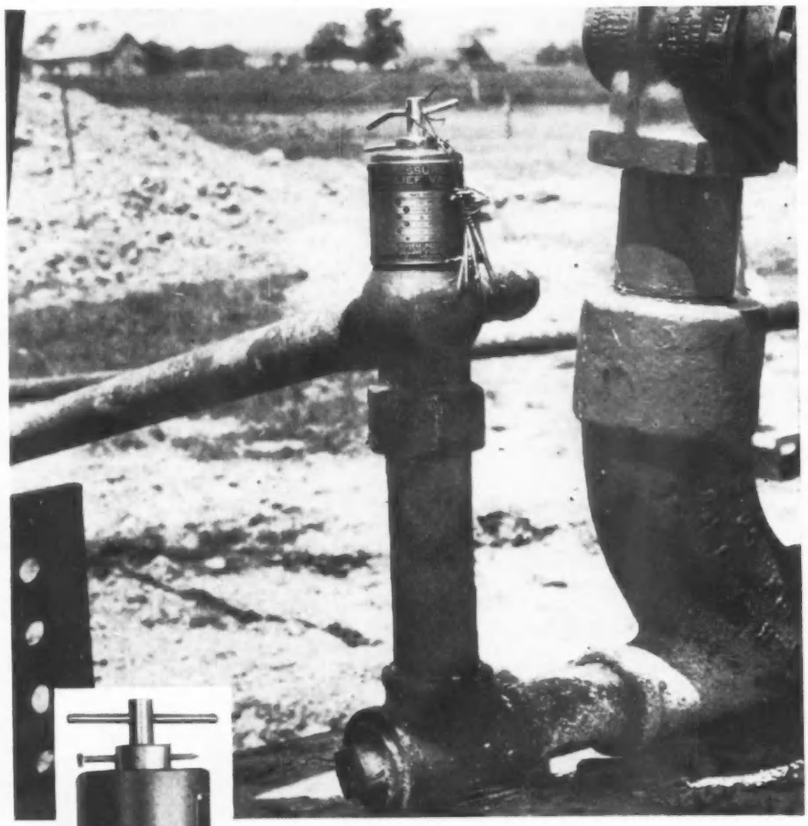
Pan-American Plans Its Own Line Out of East Texas

Pan-American Pipe Line Company, Houston, is being reorganized into a complete unit as a preliminary step toward the installation of crude trunk lines that will curtail the use of other companies' facilities in supplying the Texas City 85,000-barrel refinery of Pan-American Refining Corporation.

N. G. Moore, former East Texas field superintendent for Empire Pipe Line Company, has been engaged by Pan-American Pipe Line Company as general superintendent. He spent the past week in New York attending conferences of company officials.

The largest pipe line project under consideration involves the entry for the company into the East Texas field with a gathering system and a direct trunk line outlet. Reports indicate that the company is negotiating for the purchase of a carrier now in service, or a line will be built to Mexia, where connection can be made with Stanolind Pipe Line Company's 60,000-barrel multiple system to Houston. The Texas City refinery has been receiving about 20,000 barrels of East Texas crude daily for a period of years. This is purchased by Stanolind Crude Oil Purchasing Company, while Humble Pipe Line Company gathers and delivers the oil at Mexia to Stanolind Pipe Line Company, which functions as an intermediate carrier to Houston, where connection is made with Pan-American Pipe Line Company's 12-inch line to Texas City. The latter 32.8-mile unit was completed in September, 1933, and in 1937 was paralleled with an 18-mile 8-inch from Webster Junction to handle crude from South Houston, Hastings and other fields.

Pan-American Pipe Line Company operates a crude gathering system in the Cayuga field, and is delivering 9000 barrels daily through Stanolind Pipe Line Company's system via Mexia to



This Operator Won't Get Caught Short . . . He Keeps Spare Nails Handy!

Note, above, how the operator of this pump keeps his SHEAR-RELIEF Valve "repair parts" handy . . . a variety of nail sizes hanging by a cord from the valve stem. Should pump pressure reach the shear stress of the nail in the valve the nail shears and releases otherwise hazardous pressure. The operator merely pulls another nail from the spares and resets the valve. His table of pressures and nail shear stresses is on the valve nameplate. So is the nail gauge so that he won't mistake nail sizes.

FLUID-PISTON FLUSH PUMPS
ABERCROMBIE PUMP CO.
Gulf Bldg. Houston, Tex.

SHEAR-RELIEF VALVE

at the **BELLEVUE**

you mingle with the men and women who do things of importance, socially, commercially, politically or in the arts. Enjoy modern life in comfort and at reasonable rates.

BELLEVUE-STRATFORD

IN PHILADELPHIA • CLAUDE H. BENNETT, *General Manager*

Houston, then through its own unit to Texas City. The former also operates field gathering systems at South Houston, Hastings, and Anahuac, with Humble Pipe Line Company performing the trunk line service.

K-M-A–Hull-Silk Connection to Magnolia System To Be Built

Construction of a supplemental pipe line outlet from the K-M-A and Hull-Silk fields will be built by Magnolia Petroleum Company to facilitate deliveries to Magnolia Petroleum Company's Texas refineries and to midwestern plants of the Socony-Vacuum Oil Company. The company proposes to construct 42 miles of 8-inch trunk line from a station site on the northeast edge of the Hull-Silk field, thence east by north across Clay County to Ringgold station on its Oklahoma-Beaumont multiple system, according to reports. Additional gathering lines are being installed in the above field, and a portion of the K-M-A field runs will be routed via the new outlet.

Currently Magnolia Pipe Line Company is routing Archer and southern Wichita County crude runs via Electra, where connection is made with an 8-inch carrier built by the company in 1911.

Magnolia Laying 18-Mile Line As North Bound Supplement

Magnolia Pipe Line Company has authorized construction of an 18-mile 6-inch crude line from its Maud station to Panova junction, near Shawnee, Oklahoma, where connection is made with Sinclair Refining Company's system in making crude deliveries to Socony-Vacuum Oil Company's refineries at East St. Louis and East Chicago. The new unit will supplement existing facilities that Magnolia Pipe Line Company has used for a long period in routing Oklahoma and more recently North Texas crude to middlewestern plants of the parent organization. B. & M. Construction Corporation, Oklahoma City, will lay the new unit, starting work this week.

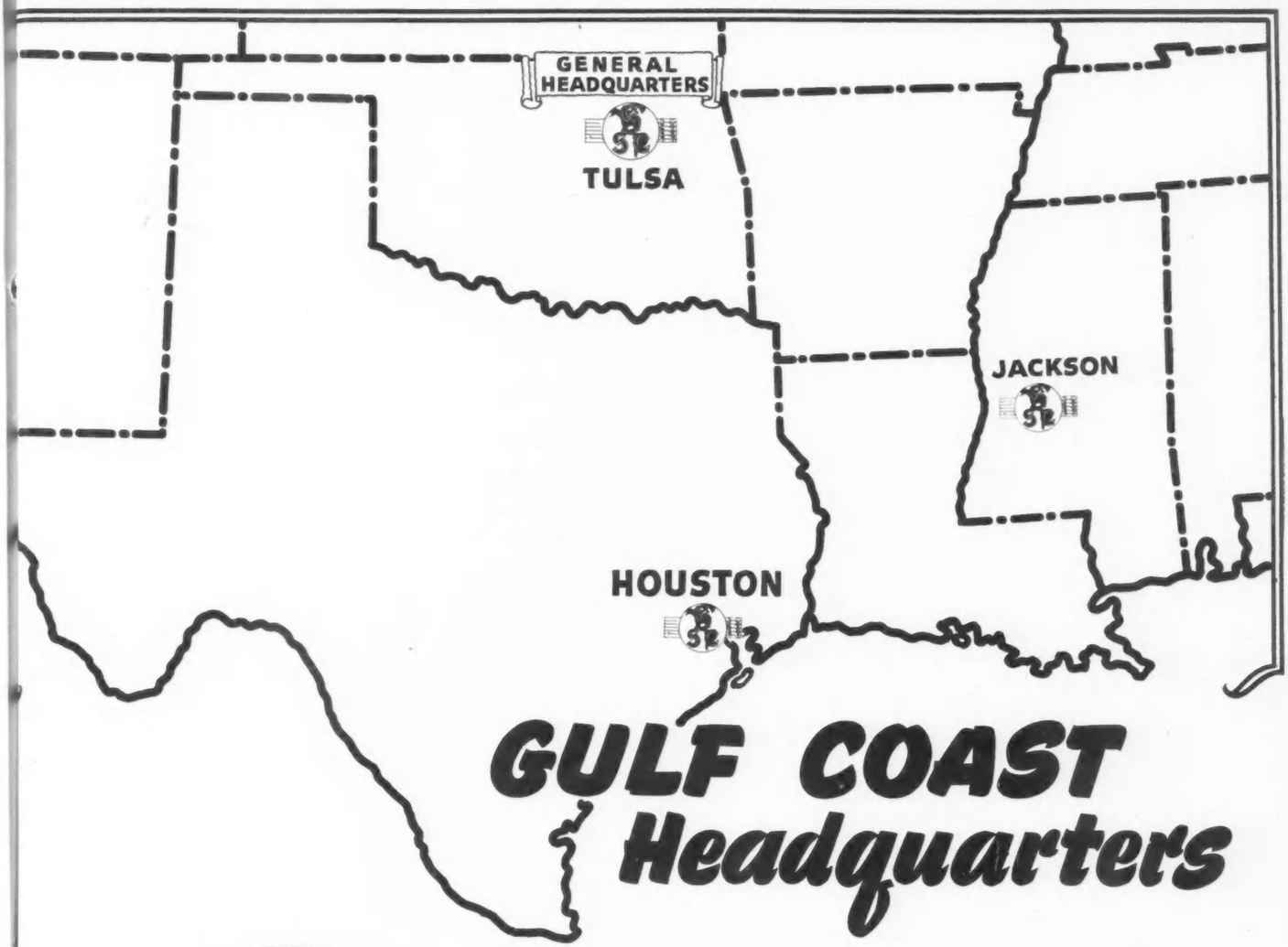
Outlet for T.C.U. Field

Sinclair Refining Company will provide a market outlet for the T.C.U. shallow oil field, Cooke County, Texas, by laying a mile 3-inch lateral from its Oklahoma-Fort Worth 8-inch trunk line. The area has 18 wells that have been dependent upon tank truck shipments.

Construction work was completed September 18 on the company's 11.14-mile 6-inch suplemental line for the Walnut Bend pool, Cooke County, thereby increasing the capacity to 8000 barrels daily. The new unit parallels 4-inch pipe.

Line to Nocona

Stanolind Pipe Line Company will start construction work this week on an extension from its Ranger-Oklahoma double 8-inch system to the Nocona deep pool, North Texas. The project was authorized late in July, and will involve laying a 6-mile 6-inch discharge line, extending northwest from the pool, which has a current allowable of 4313 barrels daily. The gathering system will be designed to operate on a gravity basis.



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World-Wide Developments

Russia Buying Heavily of United States Drilling Rigs

Heavy buying and drilling equipment by the U. S. S. R. has been under way since the first of the year.

Since around the first of the year, orders have been placed in the United States for eighty 800-meter (2500-foot) drilling rigs and for forty-five 1200-meter (4000-foot) drilling rigs. Inquiries were put out by the U. S. S. R. around the first of the year for forty 1600-meter (5200-foot) drilling rigs, but no orders have been placed on this inquiry.

Inquiries are now out for seventy-five drilling rigs of the 2000-meter size (6500-foot), five 3000-meter (9700-foot), and five 4000-meter rigs, which would be the heaviest rigs manufactured.

Internal combustion engines will be used on most of the rigs, although 10 will be steam rigs and 50 will be straight electric rigs.

The U. S. S. R. government is depositing cash in New York banks, and most of the orders are being placed for delivery at the place of manufacture with the provision that the order, once work starts on it, is non-cancellable.

Apparently, the Russian government is anticipating a long continuation of the war and is endeavoring to get its oil-country equipment in excellent shape in the event of war between the United States and Japan, which would materially interfere with delivery inasmuch as delivery to Western Russian ports is not the best at this time.

Russia manufactured part of its requirements, and during the past several years has purchased an appreciable amount of its requirements from Germany. The German source of supply apparently has been cut off, at least in large part.

Argentina Production to Top 1939 Figure By 15 Percent

Argentina's oil production of 610,114,153 gallons, or about 14,526,527 barrels, during the first eight months of 1940 indicates an all-year increase in excess of 15 percent over 1939 output.

Of the 8-month total, Yacimientos Petroliferos Fiscales, government-controlled company for production, refining and marketing, contributed 332,888,301 gallons, or about 7,925,912 barrels, according to the Argentine Information Bureau. This represents an increase of 20.08 percent over the amount produced by Y.P.F. in the corresponding period of 1939.

Production by private companies during the first eight months of the year totaled 277,225,852 gallons, or 6,600,615 barrels, compared with 243,029,654 barrels during the corresponding period of last year.

Mexican Labor Union Seeks to Halt Economy Program

Following a decision last week of the Mexican Federal Labor Board that authorized the administration of Petromex to break its labor contract in order to reorganize along lines that would allow institution of President Cardenas' economy program for the oil industry, the Petroleum Workers Union considered methods to block such a move.

Sources close to the executive committee of the union were quoted as saying there was strong sentiment in favor of a strike protesting the Cardenas program. The action would tear down many of the conquests of labor under the leadership of Vicente Lombardo Toledano, who has been described as the John L. Lewis of Mexico.

Cardenas proposed drastic cuts in wages, personnel, housing facilities, vacations and other labor gains as means of pulling the Mexican oil business out of the red.

U. S. Imports

Reciprocity Committee Gets Brief on Venezuelan Issue

Acting through the Independent Petroleum Association, American oil producers last week called upon the Committee for Reciprocity Information at Washington immediately to revise the Venezuelan trade agreement in the interest of the national defense and for the protection of the domestic industry.

Specifically, in a brief filed by Russell B. Brown, general counsel for the IPA, September 18, the committee was asked to "make good" on the promise of Secretary of State Cordell Hull that remedial action would be taken immediately in the event the agreement reacted to the injury of any domestic industry, and was warned that the increasing imports of crude are leading to a situation where, in the event of an emergency, the United States might be faced with a serious oil problem.

Carrying the fight against oil imports to the committee, Brown acted on the advice of Secretary Hull, before whom earlier he had laid the situation.

The appeal to the trade-agreement authorities was part of a broad attack against these imports, undertaken this month in Congress and the industry, other phases of which were a request to Secretary of the Treasury Morgenthau by the IPA for an investigation of the situation with a view to the possible invocation of the anti-dumping provisions of the Tariff Act and appointment by the Texas Congressional delegation of a committee to study the problem with a view to developing legislative remedies.

Points Briefed

In its brief, the association raised a number of issues, contending specifically:

That the Venezuelan agreement has failed to bring about the promised expansion of exports while nearly doubling our imports from that country;

Has nullified all efforts made by Congress to protect the domestic industry through the imposition of excise taxes;

Has thrown the domestic conservation program into a state of confusion and has led to heavy and unnecessary increases to above-ground stocks;

Has seriously retarded exploration and discovery of new fields, endangering future supplies essential to the national defense;

Has demoralized prices; and

Has encouraged a monopolistic trend which, if too long continued, might leave the Nation dependent on foreign sources for its oil supplies in a time of emergency.

Charging that the Venezuelan agreement has worked in just the opposite way from other pacts with Latin American countries and from trade with South America generally, Brown told the committee that it has resulted in an increase of only 9.9 percent in exports to Venezuela and an increase of 40.8 percent in imports from that republic, while exports to all other South American countries have increased 30.8 percent while imports from them have expanded only 9.6 percent.

Further, he said, the agreement negatived efforts of Congress since 1932 to reduce oil imports, through the adoption of excise taxes which brought about a reduction in entries from a daily average of 300,346 barrels during the first half of that year to 105,882 barrels during the last six months. In August of this year, imports averaged about 207,000 barrels a day, which is only slightly below the rate of the preceding 7 months.

Confusion in Conservation

One of the major effects of the Venezuelan agreement, Brown asserted, has been to throw the domestic conservation program into a state of confusion, with state control bodies unable to determine just how much production should be permitted without waste.

"During 1940, considerable difficulty has been encountered in bringing supply into balance with demand," he explained. "These efforts have been hampered by a loss in exports, which dropped 26 percent in the first 7 months of the year as compared with the same period of 1939. This decrease in demand was the unavoidable result of disturbed world conditions. Also contributing to the condition of oversupply was the large increase in imports or foreign oil. With the decrease in exports and the increase in imports came unnecessary and wasteful additions to above-ground stocks of crude oil.

"Domestic crude oil was added to storage during the 7 months after the Venezuelan trade agreement became effective at the rate of about 113,000 barrels per day. At the same time, imports were coming into our domestic makets at the rate of almost 200,000 barrels daily. It is not contended that, had there been no imports, we would necessarily have made no additions to crude oil storage. It seems evident, however, that the foreign oil displaced domestic products and thus painfully aggravated the problem of balancing supply with demand in conflict with the efforts of the conservation agencies of the oil-producing states. The figures also emphasize the well established fact that domestic output is more than adequate to satisfy the requirements of demand and that the volume of imported oil is not needed.

"During the period that Congress was exercising its supervision over the petroleum import situation, these imports were held within certain fairly well defined limits. Now that the State

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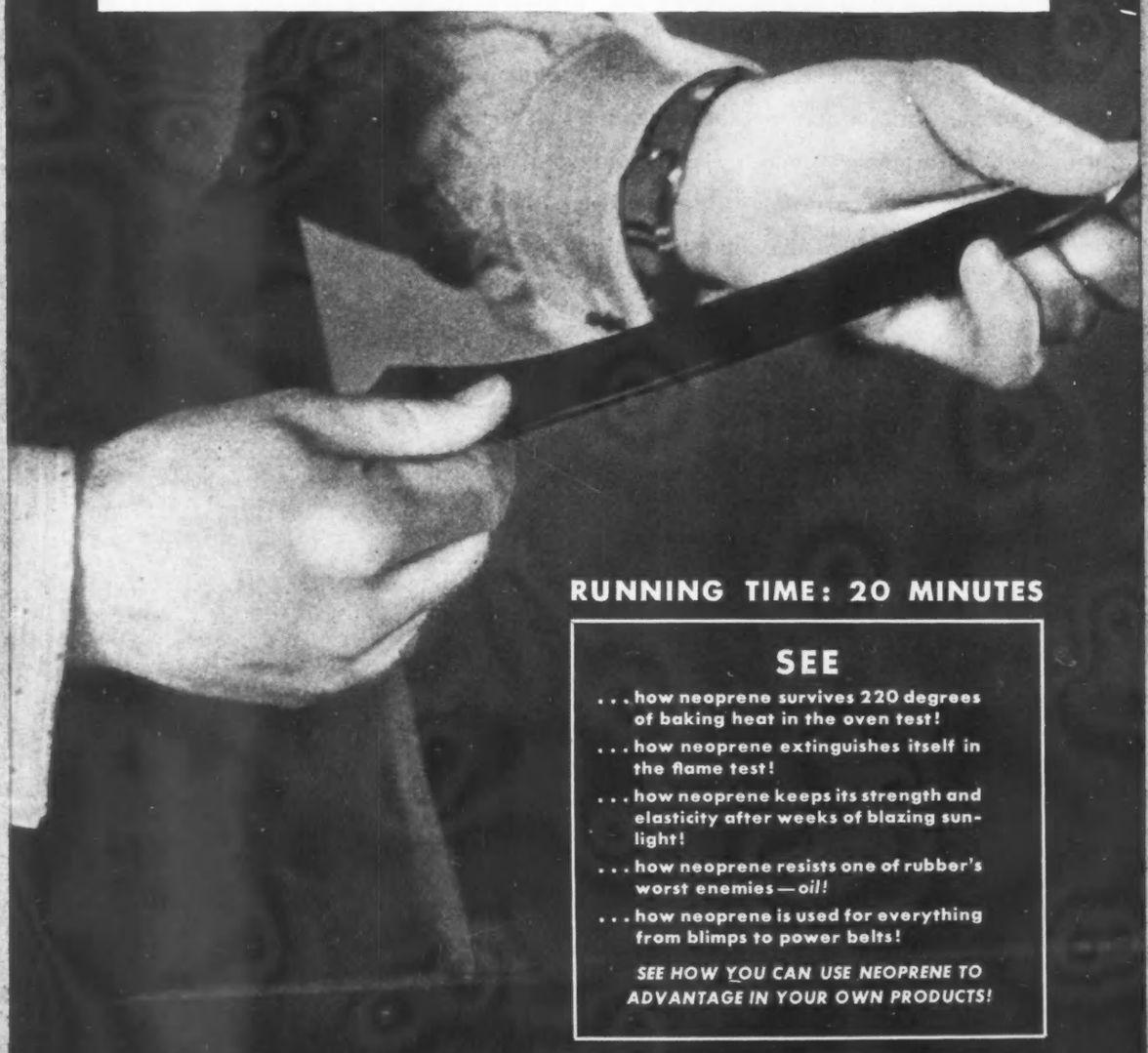

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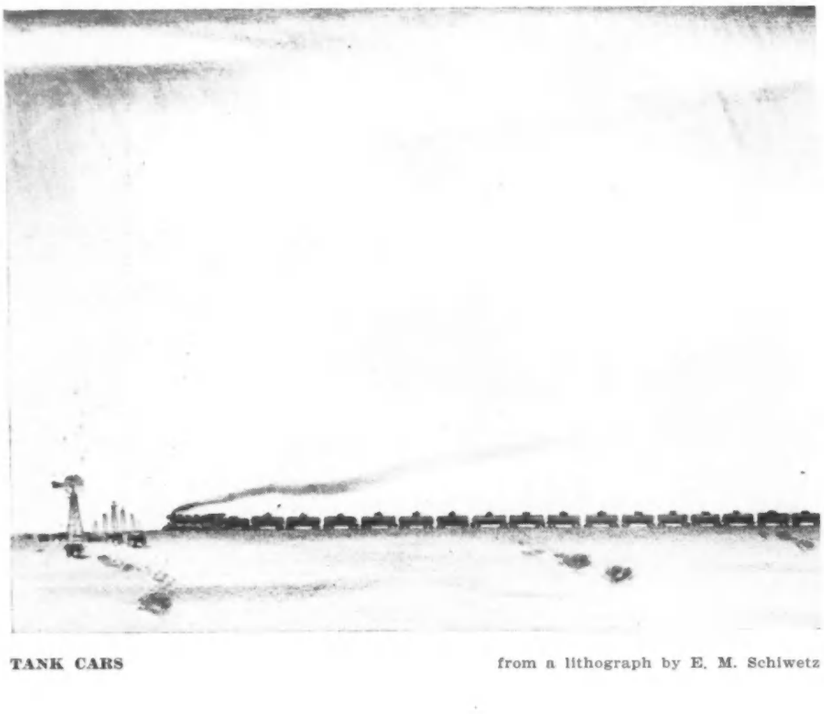

TANK CARS from a lithograph by E. M. Schiwetz

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Department has taken away from Congress this authority to survey the situation and the power to adopt remedial legislation when necessary, neither the industry nor the state regulatory bodies, nor the Interstate Oil Compact Commission are in a position to determine what portion of consumptive demand may be taken by the imports and what portion will be left for domestic production."

Imports Up, Exports Off

The association brief pointed out that under the trade agreement, oil imports during the first 7 months of this year increased 76 percent over those of the corresponding period of 1939 and, as the total demand for petroleum increased only 4.6 percent, "it is evident that the domestic producer has made a substantial sacrifice in markets to this foreign oil."

"One fact emphasizes particularly the effect of the trade agreement and its invitation to increase imports free from the control of Congress," it was declared. "Imports from Mexico have been pouring in despite the fact that the quota in which that country was included at the reduced tax rate was filled early in the year."

One of the serious developments accompanying these imports has been the decrease in exploration and discoveries of new fields, the brief continued. This is an especially important factor with world conditions as they are today.

"Probably the most disastrous effect of large and unpredictable imports of cheap foreign oil is their effect upon the price structure of the domestic industry," Brown explained. "In view of the cost differential between foreign and domestic oil, it is obviously impossible for the domestic producers—particularly those in the stripper-well class—to compete with this low-cost oil. This is aggravated by the fact that the large importing companies, being the principal purchasers of American crude oil, are thus in a position to determine the prices they will pay. The domestic price structure of the industry has been steadily growing more demoralized during the year 1940.

New Discoveries Retarded

"In connection with these demoralized prices, it is important to note the trend of new discoveries. During the first six months of the year, total discoveries including extensions of old fields have been estimated at 275,688,000 barrels as compared with production of 687,901,000 barrels. In contrast to this situation, new oil discovered during the first 6 months of 1939 totaled more than 1,000,000,000 barrels. Discoveries have failed to keep pace with consumption, and unquestionably the declining prices have contributed to this trend by discouraging risk taking.

"Obviously, not all the responsibility for the collapse of prices and the drop in our known reserves can be attributed to the increase in imports of low-cost oil. This association has pointed out that the effects of these imports and the effect of the trade agreement will become increasingly difficult to measure as other factors are introduced. It is obvious, however, that the increased imports which resulted from the Venezuelan agreement have had

[*Continued on page 223*]

MARKETS • STATISTICS • PRICES

Markets Generally Steady; Arkansas Crude Cut Local

The industry's markets have shown no important change within the past 10 days. Prices of products have held, although there has been further improvement in quotations for natural gasoline. Crude prices are steady in most districts, although one company at the middle of September reduced its postings in 9 fields of South Arkansas, because of depressed prices of refined products.

The gasoline market remains generally unsatisfactory, with wholesale and retail prices seriously depressed. The average price at service stations, excluding taxes, is approximately the same as the average for 1933, which was the lowest in the depression period.

In most districts, movement of gasoline continued to fulfill or exceed expectations for the season, as demand was comparatively large. However, some sellers in the Middle West and on the Atlantic Coast lowered their quotations ⅛ to ¼ cent a gallon on certain grades.

Seasonal improvement in demand for natural gasoline has resulted in the advance of quotations to 2¼ cents a gallon f.o.b. Group Three and to a range of 1¾ to 2 cents f.o.b. Breckenridge, Texas.

Demand for burning oil has continued good, and supplies are tightly held, as the season of increasing consumption approaches, although statistics of the industry indicate that there should not be any scarcity of oil for heating.

Tractor fuel demand remains comparatively large, as movement continues brisk, particularly to the northwest.

Heavy fuel oils are generally steady, with continued good demand anticipated, because of the national defense program, although Bunker C fuel oil, for shipment, was quoted 5 cents a barrel lower last week on the Gulf Coast.

Arkansas Crude Cut

It was indicated late last week that the reduction of Arkansas crude prices by one purchaser would not be followed generally and that the cut would not spread.

Root Petroleum Company, of El Dorado, Arkansas, buyer of 9000 barrels of crude daily from fields near its plant, on September 15 reduced its crude price postings 10 cents a barrel. The company explained that the reduction had been made necessary by a decline of 20 cents a barrel within the past two months in the return from the derivatives from a barrel of crude, and added that the reduction discounted that loss only by about one half.

Shortly afterward, however, the Arkansas Oil & Gas Conservation Commission announced that it had checked all purchasers of crude in the state and had been informed by all that they did not intend to meet the cut.

Root Petroleum Company's new schedule for Nick Springs, Urbana (light), Schuler (Morgan sand), Rainbow, South field, and Champagnolle crudes ranged from 63 cents for below 25 gravity, and 65 cents for 25-25.9 gravity upward by 2-cent differential to a top price of 95 cents for 40 gravity and above.

Prices of Root Petroleum Company for sour crude in Magnolia, Schuler (Jones sand), and Schuler (Reynolds lime) now are 10 cents per barrel less than those listed above, crude below 25 gravity having been priced at 53 cents and 40 and above at 85 cents.

Imperial Oil, Limited, Toronto, Canada, effective September 12, advanced its prices 3 cents a barrel for Turner Valley crude. The new schedule begins with $1.08 for 33-33.9 gravity and ranges by 2-cent differential to $1.70 for 64 gravity and above.

The company's postings for crude naphtha and absorption gasoline at Turner Valley were left unchanged at $2.14 per barrel for crude naphtha, 65 gravity and above; $1.94 for absorption gasoline, 90 percent recovery, 20-pound Reid vapor pressure; and $2.08 for 90 percent recovery, 17-pound Reid vapor pressure.

Two Cargoes of Gasoline to Be Shipped to Russia

Two cargoes of straight-run gasoline will be shipped from California to Russia (Vladivostok or Nagaevo, U. S. S. R.) during the coming month. Tankers W. S. Miller and S. C. T. Dodd have been leased by the Standard Oil Company of California to a Soviet agency for the two cargoes.

Stocks Reflect Desirable Yields of Products

Fairly satisfactory circumstances were reflected in the latest statistics of the industry, covering the week ended September 14. Average daily crude oil production increased 23,550 barrels but exceeded indicated market demand by only about that amount, as output had coincided with demand in the previous week.

Crude runs to stills were increased 80,000 barrels daily, but yields of products apparently were desirably determined, as production of gasoline was not stepped up greatly, while both light and heavy fuel oils were made in relatively large quantities. Consequently, the industry was able to take 1,000,000 barrels of gasoline out of excessive storage, while adding 1,000,000 barrels each of light and heavy fuel oil.

Production and Runs

United States crude oil production averaged 3,647,400 barrels daily in the week ended September 14, the American Petroleum Institute reported. That compared with 3,623,850 barrels daily in the previous week, and was 6.6 percent more than the 3,422,350 barrels produced daily in the corresponding week last year. It was 23,100 barrels more than the indicated daily average market demand for domestic crude in September, as estimated by the United States Bureau of Mines.

Crude runs to stills rose to 3,580,000

Trends of Operations and Changes in Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	FUEL OIL STOCKS	
					Gas Oil & Dist. Fuels	Residual Fuel Oil
1938:						
November 12	3,243,250	3,180,000	273,394,000	[6]67,551,000	34,175,000	120,491,000
December 10	3,245,100	3,150,000	[2]269,509,000	68,687,000	32,068,000	118,711,000
1939:						
April 22	3,526,700	3,280,000	277,156,000	[2]87,769,000	21,085,000	105,035,000
April 29	3,568,200	3,405,000	278,440,000	86,794,000	[7]25,844,000	[7]108,409,000
May 6	3,580,900	3,275,000	[2]278,607,000	86,216,000	26,167,000	108,597,000
July 29	3,539,100	3,460,000	268,513,000	77,887,000	34,900,000	114,053,000
August 5	[1]3,909,400	3,445,000	268,982,000	76,431,000	35,601,000	114,512,000
August 26	[5]1,690,800	3,475,000	246,982,000	73,475,000	37,722,000	116,237,000
September 30	3,658,200	3,560,000	233,023,000	71,168,000	38,081,000	115,466,000
October 7	3,435,850	3,505,000	231,564,000	[6]71,152,000	38,549,000	114,397,000
October 21	3,771,550	[2]3,650,000	[3]229,127,000	72,122,000	39,358,000	115,060,000
October 28	3,498,500	3,520,000	230,453,000	72,660,000	39,562,000	114,786,000
November 25	3,818,100	3,510,000	231,811,000	75,595,000	38,527,000	112,106,000
December 30	3,545,000	3,445,000	237,742,000	80,985,000	34,184,000	106,680,000
1940:						
January 27	3,611,600	3,470,000	237,339,000	87,914,000	27,407,000	103,015,000
February 24	3,732,100	3,490,000	240,836,000	96,719,000	25,390,000	103,419,000
March 30	3,841,250	3,585,000	250,561,000	101,370,000	23,778,000	105,081,000
April 20	3,858,550	3,535,000	254,881,000	[1]102,817,000	24,779,000	103,323,000
April 27	3,845,250	3,555,000	256,670,000	102,452,000	24,997,000	102,552,000
May 25	3,835,650	3,580,000	259,330,000	100,297,000	28,356,000	104,015,000
June 22	3,846,450	[3]3,690,000	260,891,000	97,276,000	32,751,000	104,683,000
June 29	3,639,550	3,625,000	262,059,000	95,142,000	33,590,000	104,486,000
July 27	3,690,400	3,555,000	262,579,000	90,173,000	38,981,000	105,924,000
August 31	3,501,350	3,575,000	265,865,000	85,393,000	44,766,000	108,774,000
September 7	3,623,850	3,500,000	262,716,000	84,294,000	45,505,000	108,080,000
September 14, 1940	3,647,400	3,580,000	.....	83,300,000	46,648,000	109,135,000
September 14, 1939	3,422,350	[8]3,517,000	[4]233,826,000	71,708,000	37,865,000	114,930,000
Change in past year	+6.6%	+1.8%	+12.4%	+16.2%	+23.2%	—5.0%

[1] All time peak. [2] Peak for year. [3] Lowest since April, 1922. [4] Stocks, September 9, 1939.
[5] Lowest since October, 1922, due to shutdown of six Mid-Continent States. [6] Lowest for year.
[7] Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California.
[8] September, 1939, daily average.

Wholesale Prices of Refined Products

REFINED GASOLINE (Cents a gal.)	Range Last Week	Late	Changes from week Before	
Oklahoma Refineries:				
60 Octane and under	3⅞	4¼	...	...
63-66 Octane	4¼	4⅜	...	...
72-74 Octane	4⅝	5¼	...	...
Mid-Western Tank Car:				
60 Octane and under	3⅞	4¼	...	...
63-66 Octane	4¼	4⅜	...	...
72-74 Octane	4⅝	5	...	—¼
New York Harbor:				
68-70 Octane	4⅝	5½	—⅞	...
72-74 Octane	4⅝	6½	...	...
Gulf Coast:				
60 Octane unleaded	3⅝	4½	...	...
72-74 Octane leaded	3⅝	4¾	...	...

NATURAL GASOLINE				
Grade 26-70:				
F.O.B Group 3	2¼	2¼	+½	+⅛
F.O.B. Breckenridge, Texas	1¾	2	+¼	+½

KEROSENE				
Oklahoma Refineries:				
41-43 water white	3⅞	4¼	...	...
42-44 water white	4	4⅝	...	...
Mid-Western Tank Car:				
41-43 water white	3⅞	4¼	...	...
42-44 water white	4	4⅝	...	...
New York Harbor	4¾	4⅞	...	...

RANGE OIL				
At Oklahoma Refineries	3½	3⅞	...	...
In Mid-Western Market, Group 3 basis	3½	3⅞	...	...

LIGHT FUEL OILS				
Oklahoma Refineries:				
No. 1 straw	3¼	3½	...	...
No. 3	3⅛	3⅜	...	...
Mid-Western Tank Car:				
No. 1 white	3⅜	3¾	...	...
No. 3	3⅛	3⅜	...	...
New York Harbor:				
No. 1	4¾	4⅞	...	...
No. 3	4⅛	4¼	...	...

HEAVY FUEL OILS (Per Bbl.)	Range Last Week	Late	Changes from week Before	
Oklahoma Refineries:				
No. 6	$0.55	$0.55	...	...
Mid-Western Tank Car:				
No. 5	.75	.75	...	...
No. 6	.50	.55	...	...
New York Harbor:				
No. 5	1.35	1.55	—.10	—.15
No. 6	1.15	1.25	...	...

BUNKER C FUEL OIL (Per barrel, ships bunkers)				
Gulf Coast	$ .80	$ .90	...	...
New York Harbor	1.15	1.25	...	...

DIESEL OIL (Per barrel, ships bunkers)				
Gulf Coast	$1.50	$1.70	...	...
New York Harbor	1.70	1.70	...	...
Los Angeles Basin, 27 gravity	1.10	1.35	...	...

LUBRICATING OIL (Cents a gal.)				
Oklahoma Refineries:				
Bright Stock, 150-160 viscosity at 210°, 1025 pour test	13	15½	...	...
Neutral oil, pale No. 3 color, 150 viscosity at 100°, 0-10 pour test.	8	10¼	...	...
Western Pennsylvania:				
Bright stock, 145-155 viscosity, at 210° 25 pour test	12	13	...	...
Neutral Oil No. 3 color, 150 viscosity at 70°, 25 pour test	19	19	...	...

barrels daily from 3,500,000 barrels the week before, and were 1.8 percent larger than in the comparable week last year, when the stills were charged with 3,517,000 barrels daily.

Production of gasoline was expanded to 11,724,000 barrels for the week, an increase of 264,000 barrels as compared with the output in the preceding 7 days.

Finished and unfinished gasoline stocks were lowered to 83,300,000 from 84,294,000 barrels, but remained 11,600,000 barrels, or 16.2 percent, larger than a year before, when the total on hand was 71,708,000 barrels. The gasoline inventory apparently will be above 80,000,000 barrels at the end of September, whereas economists have said that 65,000,000 barrels would serve the industry adequately as working stocks at that time.

Fuel Oil Stocks

Stocks of light fuel oils were further increased from 45,505,000 to 46,648,000 barrels, and the latter quantity was nearly 9,000,000 barrels, or 23 percent, greater than that of 37,865,000 barrels in the tanks at the middle of September last year.

Heavy fuel oil inventories were increased in the week of September 14 from 108,080,000 to 109,135,000 barrels, but still were 4,000,000 barrels, or 5 percent, smaller than a year previously, when they totaled 114,930,000 barrels.

Crude oil stocks in the United States dropped approximately 3,000,000 barrels to 262,716,000 barrels in the week ended September 7, the bureau reported, and that withdrawal more than canceled the addition of 2,000,000 barrels in the preceding week. There has been no important net change in crude stocks since July 1, and the present inventory appears to be fairly satisfactory.

United States Crude Oil Production Down 30,750 Barrels

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand in Sept.	State Allowable in Sept.	BARRELS DAILY FOR WEEK ENDED Sept. 14	Sept. 21
TEXAS—				
Texas Panhandle	.....	.....	76,350	78,100
North Texas	.....	.....	96,425	97,550
West Central Texas	.....	.....	29,675	29,775
West Texas	.....	.....	227,850	229,400
East Central Texas	.....	.....	78,050	75,100
East Texas Field	.....	.....	374,850	374,800
South Texas	.....	.....	214,900	218,600
Texas Gulf Coast	.....	.....	208,850	212,250
Total Texas	**1,320,300**	**1,298,528***	**1,306,950**	**1,315,575**
CALIFORNIA—				
Long Beach	.....	.....	43,800	44,100
Midway-Sunset	.....	.....	59,000	45,200
Kettleman Hills	.....	.....	47,500	46,100
Wilmington	.....	.....	83,500	83,500
Others	.....	.....	403,900	389,400
Total California	**593,000**	**571,000†**	**637,700**	**608,300**
OKLAHOMA—				
Oklahoma City	.....	.....	102,450	94,150
Seminole Area	.....	.....	104,700	96,500
Others	.....	.....	205,775	211,700
Total Oklahoma	**397,000**	**390,000**	**412,925**	**402,350**
ILLINOIS—				
Salem	.....	.....	157,000	151,500
Louden	.....	.....	72,500	74,700
Centralia	.....	.....	24,500	22,300
Other New Pools	.....	.....	98,300	98,900
Old Pools	.....	.....	10,200	10,500
Total Illinois	**430,000**	.....	**362,500**	**357,900**

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand in Sept.	State Allowable in Sept.	BARRELS DAILY FOR WEEK ENDED Sept. 14	Sept. 21
LOUISIANA—				
North Louisiana	.....	59,421	64,700	65,100
South Louisiana	.....	215,433	219,850	218,900
Total Louisiana	**274,700**	**274,854**	**284,550**	**284,000**
KANSAS	**170,700**	**190,000**	**194,600**	**201,700**
NEW MEXICO	**105,300**	**100,300**	**100,750**	**99,850**
EASTERN STATES—				
Pennsylvania Grade	70,300	.....	70,100	70,350
Others, Eastern	21,600	.....	20,050	19,950
Total Eastern States	**91,900**	.....	**90,150**	**90,300**
MOUNTAIN STATES—				
Wyoming	75,300	.....	74,850	73,950
Montana	17,700	.....	17,550	17,500
Colorado	4,000	.....	3,500	3,400
Total Mountain States	**97,000**	.....	**95,900**	**94,850**
MICHIGAN	**55,700**	**52,000§**	**52,900**	**51,800**
ARKANSAS	**69,700**	**75,105**	**73,750**	**73,550**
INDIANA	**9,300**	.....	**17,100**	**18,150**
MISSISSIPPI	**9,700**	.....	**26,500**	**27,250**
NEBRASKA	.....	.....	**250**	**200**
‡Total 8 Prorated States	**2,986,400**	**2,032,487**	**3,064,125**	**2,963,575**
Total United States	**3,624,300**	.....	**3,656,525**	**3,625,775**

* Net daily average for 30 days as of September 1, considering general shutdowns on September 1, 2, 8, 14, 15, 21, 22, 29, 30.
† Recommendation of Central Committe of California Oil Producers.
§ Department of conservation estimate of actual production.
‡ Texas, California, Oklahoma, Louisiana, Kansas, New Mexico, Arkansas, Michigan.

Demand for North Texas Oil Greatest in Ten Years

Demand for North Texas high-gravity oil is currently the greatest in more than a decade. Competition among six buyers has resulted in a substantial turnover of well connections in the large producing areas within the past two months. Pipe lines completed and projected during this period will materially enlarge the district's outlet.

Resumption of crude shipments to Middlewestern refineries is largely responsible for the return of a highly competitive market for the district. Continued decline in Illinois and inability of Kansas and Oklahoma to fill the gap has caused purchasers to fall back on the lower end of the Mid-Continent for supplies.

Sharp upturn in demand for North Texas crudes appeared early in August when Stanolind Crude Oil Purchasing Company re-entered Wichita County as a buyer. The company's initial efforts netted 225 deep-well connections in the K-M-A field. This move was followed by the entry of Stanolind Pipe Line Company with a 6-inch carrier that links the field with an 8-inch gravity line at Devol, Oklahoma. The K-M-A outlet began operating at capacity on September 15, and connections have been increased to about 6500 barrels daily.

Gulf Refining Company strengthened its position at K-M-A by completing a direct 6-inch carrier to Burk Station on its old trunk line. This unit began handling oil September 5 and eliminated the use of an old looped 4-inch line via Electra in reaching the main line at Burk.

Magnolia Pipe Line Company began shipping North Texas crude to Middlewestern refineries of Socony-Vacuum Oil Company last August. This is the first occasion that the company has moved Texas crude north. It proposes to revamp its K-M-A and Hull-Silk system to avoid routing northbound shipments via Electra, Burk and Bowie, where connection is made with its Oklahoma-Beaumont multiple system. The new project calls for the laying of a 42-mile 8-inch carrier from Hull-Silk, thence east across Clay County to Ringgold Station which is north of Bowie Station. Capacity out of North Texas will be more than doubled when the company completes the new setup.

Continental Oil Company has likewise been bidding for its share of the available well connections, and has materially enlarged its runs from Hull-Silk the past month.

Pipe line outlet for the district was materially reduced during the 10-year period that East Texas has dominated the Texas high-gravity-oil market. The only increase provided other than that built and authorized since the mid-year was provided by Sinclair Refining Company. The latter completed a supplemental 66-mile 6-inch outlet for K-M-A and Hull-Silk in May, 1939, and paralleled same with an 8-inch last March. The company has been particularly active in laying short lines in Cooke and Montague counties.

In view of the healthy demand for high-gravity oils produced by some of the recently discovered deep pools, production allowables are at attractive levels. Competition has likewise caused purchasers to readjust their gravity price schedules to conform with top prices paid by others. Buyers that held out for lower prices are having difficulty in preventing property owners shifting well connections.

North Texas gravity price scale ranges up to $1.03 per barrel for 40-gravity and above as compared to a top price of $1.10 paid in Oklahoma and Kansas. This differential has been protested without results by North Texas operators.

Oil for Bombs

War has opened another new market for oil. Bombs are now being filled with oil so that when they ignite upon landing the flames will spread with the flow of oil from the bomb. Several of this type of bomb were dropped in London last week.

Bureau July Report Shows Further Production Decline

Declining for the fourth successive month, crude petroleum production in July dropped to an average of 3,653,000 barrels per day, a decrease of 70,000 barrels from June's 3,723,000-barrel average and the lowest for any month since last September, it was reported September 11 by the Bureau of Mines.

Output in July, the bureau commented, was only 2 percent higher than in the same month last year, when an average of 3,578,600 barrels was recorded, the smallest margin for any month of this year.

Total production for the month was 113,244,000 barrels, compared with 111,690,000 barrels in June and 110,937,000 barrels in July, 1939.

The important event in production for the month was the decline in Illinois, where the daily average fell from 506,500 barrels in June to 445,300 barrels, the bureau stated. The total initial of the new wells in July was hardly more than half that in June, it was pointed out, but a more important factor was the rapid decline of the Devonian wells. Production in Oklahoma and Kansas increased, possibly, the bureau suggested, an initial step toward recovering markets lost to Illinois, while California's output changed little and a relatively small decline occurred in Texas.

Crude runs to stills declined drastically in July, the bureau found, and even though production fell materially, stocks increased about 1,500,000 barrels, compared with little change in June.

Yields of both gasoline and distillates increased during the month, the former rising from 43.1 percent in June to 43.5 percent and the latter rising from 13.1 to 13.4 percent, it was reported. The gasoline yield was 1 percent lower than a year ago, and the distillate yield 1.5 percent higher.

"The pre-tax buying in June affected the July demand as predicted," the bureau commented, in discussing the situation. "The domestic demand in July was 53,865,000 barrels, or between 6 and 7 percent higher than a year ago but about 1,000,000 barrels below average expectations. Exports of motor fuel declined to 1,686,000 barrels, the lowest figure since March, 1936. Because of the demand situation, the withdrawal from gasoline stocks of about 4,500,000 barrels in July was less than anticipated, though larger than a year ago.

"The domestic demands for both light and heavy fuel oils were higher than a year ago, though the gains were moderate. Heavy-fuel stocks are considerably lower than a year ago but light-fuel stocks are about 4,000,000 barrels higher."

Production of aviation gasoline continued to expand, totaling 1,094,000 barrels in July against 1,009,000 barrels in June, the report showed. Exports, limited to the Western Hemisphere on July 23 by President Roosevelt's embargo order, dropped to 210,000 barrels from 646,000 barrels in the preceding month and were considerably under the 266,000 barrels shipped out of the country in July, 1939. Domestic demand increased more than 50 percent,

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Bureau Report of Supply and Demand of All Oils, July, 1940

(Thousands of Barrels)

	July, 1940	June, 1940	July, 1939	January-July 1940	January-July 1939
New Supply:					
Domestic production:					
Crude petroleum	113,244	111,690	110,937	801,145	734,328
Daily average	3,653	3,723	3,579	3,761	3,464
Natural gasoline	4,684	4,401	4,175	31,025	29,025
Benzol[1]	279	263	191	1,757	1,204
Total production	118,207	116,354	115,303	833,927	764,557
Daily average	3,813	3,878	3,719	3,915	3,606
Imports[2]:					
Crude in bond	.....	200	395	790	2,694
Crude for domestic use	3,981	3,488	2,539	21,333	15,860
Refined in bond	[3]661	942	2,029	8,777	11,405
Refined for domestic use	[3]2,000	2,056	608	14,400	4,048
Total new supply, all oils	124,849	123,040	120,874	879,227	798,564
Daily average	4,027	4,101	3,899	4,128	3,767
Increase in stocks, all oils	7,147	2,416	3,588	48,587	4,402
Demand:					
Total demand	117,702	120,624	117,286	830,640	794,162
Daily average	3,797	4,021	3,783	3,900	3,746
Exports:					
Crude petroleum	5,607	5,692	7,304	32,022	42,253
Refined products	[4]6,219	8,516	9,622	49,935	68,505
Domestic demand:					
Motor fuel	53,865	55,459	50,508	332,487	308,726
Kerosene	4,257	3,952	3,710	39,305	33,772
Gas oil and distillate fuels	7,493	7,327	6,938	94,300	78,157
Residual fuel oils	23,800	24,749	23,442	190,937	179,352
Lubricants	1,871	2,146	1,982	13,677	13,035
Wax	108	78	62	633	530
Coke	602	509	454	3,949	3,794
Asphalt	3,619	3,137	3,048	13,988	13,599
Road oil	1,629	1,275	1,585	4,016	4,338
Still gas	6,286	6,418	5,920	42,123	37,958
Miscellaneous	215	207	182	1,115	1,295
Losses	2,131	1,159	2,529	12,153	8,848
Total domestic demand	105,876	106,416	100,360	748,683	683,404
Daily average	3,415	3,547	3,237	3,515	3,224
Stocks:					
Crude petroleum:					
Refinable in United States	263,498	261,971	270,570	263,498	270,570
Heavy in California	13,204	13,334	14,375	13,204	14,375
Natural gasoline	7,584	7,000	7,123	7,584	7,123
Refined products	289,071	283,905	279,380	289,071	279,380
Total, all oils	573,357	566,210	571,448	573,357	571,448
Days' supply	151	141	151	147	153

[1] From Coal Economics Division. [2] Imports of crude as reported to Bureau of Mines; all other imports and exports from Bureau of Foreign and Domestic Commerce. [3] No imports into non-contiguous territories in July. [4] Exclusive of 9,000 barrels exported from non-contiguous territories but inclusive of 850,000 barrels shipped from U. S. to territories.

to 689,000 barrels from 401,000 barrels in June, but there was a slight addition to stocks, which increased from 3,904,000 barrels June 30 to 4,099,000 barrels July 31.

Bureau of Labor statistics figures placed the price index for petroleum products in July at 49.5, compared with 50 in June and 52.2 in July, 1939. The crude-oil capacity represented by the data in the report was 4,343,000 barrels, indicating an operating ratio of 80 percent compared with 84 percent in both the preceding month and the corresponding month last year.

Details of supply and demand for July, as compiled by the bureau, are shown in the accompanying table.

Soviet Ration Tickets Good Only in Limited Areas

Gasoline ration ticket books being used in Russia are good only in the neighborhood in which they are issued. The rule provides a means of limiting cross-country travel to trips the government considers absolutely necessary and a means of reducing civilian consumption of gasoline.

Clarence Morris, Petroleum Engineer Head, Dies at 56

Clarence Morris, 56, president and general manager of Petroleum Engineer Publishing Company, publishers of The Petroleum Engineer, Dallas, died September 18 in Los Angeles following a heart attack.

Born in Corpus Christi, Morris entered advertising after a short career in professional baseball. He became associated with the petroleum field in 1913 when he joined the Oil City Derrick. He later joined the sales staff of The Oil & Gas Journal in the Pittsburgh territory, and advanced to the position of advertising manager. He continued in this capacity until resigning to start The Petroleum Engineer in 1929.

Burial was September 20 at Ventura, California.

CLARENCE MORRIS

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U. S. FIELD OPERATIONS

Illinois

Gallatin County Pool Opened By a 200-Barrel Well

A Gallatin County wildcat, 7 miles from the county's only field flowed 66 barrels in 2 hours and 50 minutes from the Lower O'Hara formation. Egyptian Tie and Timber Company's Donald Colbeck 1, SE NW NE 19-8s-10e, producing natural from pay at 2735-42 feet with total depth of 2752 feet. The well began flowing while it was being cleaned. After its first gauge, it settled to 9 barrels an hour.

Mazda Oil Company and Palmer Corporation's L. Storms 1, CN½ SW SE 26-5s-9e, White County, had a hole full of oil before an acid treatment and was being completed in McClosky at 3156-64 feet. The test is two miles northwest of the Storms field, a mile from the city of Carmi, and is regarded as a pool opener.

Another White County wildcat, C. D. Neff et al's Garner 1, a Phillips Petroleum Company farmout, was rated at 200 barrels a day on a fill-up test, from Aux Vases sand topped at 2942 feet. During a brief test, the well swabbed 40 barrels of oil an hour. In the SW SW SW 36-4s-10e, the well is either an extension of the Calvin field to the northwest or a pool opener.

A new producing horizon was added to the Maud field of Wabash County when Sam Yingling's Seiler 1-A, SW 265-1s-13w, was completed as a light producer in Benoist sand at 2390 feet after a plug-back from a dry McClosky.

Two Effingham County wildcats showing for producers still were not completions. R. H. Troop's B. K. LeCrone 1, NW SW 7-8n-4e, was being given a 24-hour pump test in Weiler sand at 1540 feet, and Barr & Erwin's Dammerman 1, NW NW SW 18-8n-4e, was still being cleaned out in Weiler at 1550 feet. The two wells are ¼ mile west of production in Fayette County. There is no production in Effingham County at present.

The Carter Oil Company was preparing for deep exploration in Fayette County, site of the Louden field, second most productive area in the state. The company has signed agreements with other operators in the field for a well spacing program of one well in the approximate center of each vertical 20 acres if Devonian or other deep production is discovered. In addition, the company has signed a contract with the Hogan heirs for a stratographic core drill test somewhere in Sections 21 or 27-8n-3e, the heart of the Louden field.

The company discovered Louden field in 1937 and now has 999 producing wells from three horizons, Weiler, Paint Creek and Benoist. The company also has 55 gas input wells used in connection with its pressure maintenance plant. There have been but three Devonian tests in the county. The Carter Oil Company's discovery, Mary Miller 1, Section 12-8n-3e, was drilled to the Devonian but after acidization pumped 8 barrels a day. It was later plugged back to the Paint Creek, but several months ago was abandoned. It is now known that Miller 1 was on the northeast edge of the structure. The other two Devonian ventures both were in Avena township, one on the west edge of the structure and the other definitely off structure. Production of the Louden field averages about 73,000 barrels daily.

A deep test was underway in the small Fairman field of Marion and Clinton counties, Shell Oil Company's Ververs 6-C, CE½ SE NW 18-3n-1e, Marion County, drilling at 3143 feet after a drill-stem test in Devonian lime at about 2900 feet showed only water. The test probably will be taken to the Trenton. Production of the field is from Benoist and Aux Vases, and the venture is the first test to be drilled below those depths.

There were two Trenton tests underway in the Sandoval field, Marion County, where both Benoist and Devonian production were first uncovered in Illinois. B. E. Martin's Robinson 1, SE SW 4-2n-1e, was drilling at 3410 feet with rotary tools from a former total depth of 2984 feet in Devonian. Big Four Oil & Gas Company had cable tools on location to deepen Sherman 1, NW 9-2n-1e, from 3002 feet to the Trenton. Only Trenton production discovered in the new Illinois play is in the Centralia field where one light producer, an 80-barrel well, has been completed.

In Jefferson County, Union Mining Company's Chaney 1, NW SW 23-3s-4e, was abandoned at 3200 feet, dry in all formations.

In Bond County, Arrow Drilling Company's Stoneburner, NE 3-6n-2w, a wildcat, was abandoned at 1104 feet, below the Aux Vases topped at 1080 feet. Cypress sand was found at 880 feet, but the Benoist was missing.

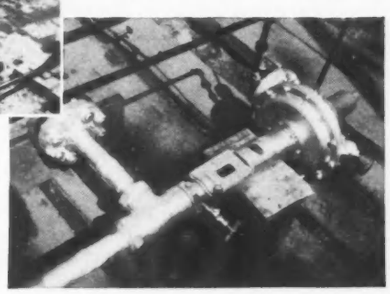
Tuesday Oil Company's George Works 2, NE NE SE 13-2s-10e, Edwards County, which recovered only a fair show in the Upper McClosky, was deepened about 50 feet to 3173 feet, the lower McClosky, and flowed over the derrick top in a drill-stem test, open 10 minutes. The well is in the Albion field and is bottomed 50 feet lower than any other producer in the pool. The field so far has been producing in the Bridgeport, Waltersburg and upper McClosky.

A Clinton County wildcat three miles west and some south of Centralia, Strawser-Sistler's Boreup 1, SE SW NW 22-1n-1w, was shut down at 1510 feet and has been temporarily abandoned. It is 1½ miles west and south of Phoenix 1, which a week ago was hailed as a discovery when it pumped 37 barrels in 11 hours from a sand formation at 1303-08.

Indiana

Knox County Wildcat Flows 100 Barrels After Acid

A pool-opener in Knox County, W. C. McBride's C. C. Winkler 1, SW SW SW 24-2n-11w, 6 miles south and west of Vincennes, was flowing after 2000 gallons of acid for an estimated 100



6000 lb. W.P. MASONEILAN Regulator used as an Automatic Choke (shown at right). No gas wasted to flare here.

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barrels a day from McClosky at 1872-1878 feet. Natural, the well swabbed 3 barrels an hour for 13 hours. Operators have set surface casing for Lewis Heirs 1, NE NE NE 26-2n-11w, southwest diagonal offset.

Abandoned was Jarvis Brothers and Marcell's Sarah Murphy Heirs 1, SW SE NE 35-3s-13, Gulf Refining Company farmout north of Stewartsville, Posey County. Starting at surface elevation of 389 feet, West Franklin was topped at 225 feet, and from there on the test ran low. Total depth, with no shows in any horizon through the McClosky, was 2880 feet.

In Daviess County, near Logoottee, Midwest Development Corporation spudded Dille 1, projected Devonian wildcat in NW NE NE 2-2n-5w.

Forest City Basin

Exploratory Activity Increased In Nemaha County District

Intensified activity in the Forest City Basin region centered about the town of Auburn, Nemaha County, Nebraska, where 6 wildcats were drilling despite a Viola-lime failure northwest of the town. A number of geologists have moved from Falls City to Auburn, and numerous geophysical parties are shooting throughout Southeastern Nebraska.

Schock & Blakeman et al's Rogge 1, NWc 17-5n-13e, ½ mile east of Johnson and 8 miles east of Auburn, cored good saturation in Hunton lime at 2456 feet, topped at 2315 feet. Casing was cemented on top of pay and the wildcat was to be acidized prior to testing.

E. J. Shaffer and others have the largest producer in Falls City pool, Richardson County, Nebraska, at Sandrock 1, NE SW NW 20-1n-16e, south of present production. Hunton lime at 2226-60 feet was perforated with 116 shots and treated with 2000 gallons of acid. Prior to acidizing, the well swabbed 30 barrels in 1½ hours. After treatment, flow increased to 52 barrels the first hour through tubing. Crude tested 31.5-gravity. Viola lime at 2793-2973 feet tested water after two small acid shots, and hole was plugged back to 2310 feet.

Stanolind Crude Oil Purchasing Company and Stanolind Pipe Line Company will provide a market for Falls City crude, taking the 500-barrel output from R. L. Campbell's Shock 1, S WSE NE 20-1n-16e, and Skelly Oil Company's Davisson 1, SW NW NE 20-1n-16e, capable of 720 barrels per day. Oil will be trucked to the Topeka pump station, and put into the Stanolind line that leads to its refinery at Neodesha, Kansas. Union Pipe Line Company of Centralia, Illinois, will take crude from Harry Harpers' Sibbernsen 1, SE NE NW 20-1n-16e, estimated at 750 barrels daily. From a gathering system, crude will be shipped to Minneapolis and blended with Wyoming crude. This move followed a ruling of the Interstate Commerce Commission for a 21-cent rate from Falls City to Minneapolis, comparable to an old rate of 30 cents.

Robert C. Druesedow, Omaha, announced plans for construction of a refinery at Falls City to cost between $150,000 and $200,000. Several sites have been considered and construction will begin shortly.

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Oklahoma

East Cromwell Pool Extended; New Seminole County Area

Shell Oil Company extended East Cromwell pool, Okfuskee County, west at Replogle 1, NE SE SE 35-11n-8e, flowing 295 barrels of oil and 20 barrels of water in 24 hours through casing from Cromwell sand penetrated to 3486 feet. Additional tankage was being constructed. Operators began work on two offsets, Replogle 2, SE NE SE 35-11n-8e, and Replogle 3, SEc 35-11n-8e, and both were drilling below surface pipe. The Texas Company's Berryman 1, NW SE SW 36-11n-8e, two locations east of the discovery, tested water in Cromwell sand at 3490-3521 feet and was deepening to Hunton lime. Foundation Oil Company's Berryman 1, NEc 35-11n-8e, ¾ mile north of the discovery, swabbed 75 barrels daily and is installing pump.

Justin Oil Company has a small pool-opener between Seminole City and the East Seminole area at Rhea 1, CS½ SE SW 12-9n-6e, flowing 40 barrels daily. Hunton lime was topped at 4032 feet and drilled to 4061 feet. Stanolind Oil & Gas Company's Grisso 1, NE NW SW 15-9n-6e, extension for East Earlsboro pool, Seminole County, flowed 83 barrels in 24 hours. Opera-

tors may shoot before completion. Senora sand was logged at 2887-2924 feet.

Gas production in an un-named area of Hughes County was extended at Loual Drilling Company et al's Stevenson 1, NE NW SE 24-8n-10e, 4½ miles east of Yeager pool, which established a completion potential of 7,000,000 feet per day from Gilcrease sand at 2874-2902 feet.

North of Dill pool in Okfuskee County, J. O. Haynes Drilling Company et al's McKernan 1, CE½ SE NW 25-12n-8e, cored Hunton lime at 4057-74 feet to recover 10 feet with good odor and staining. Casing was run to test. Indian Territory Illuminating Oil Company extended Dill pool north at Miller 1, SW NW SW 35-12n-8e, flowing 940 barrels in 14 hours. Additional tankage was erected for further testing. Cromwell sand was saturated at 3519-55 feet, and gas was estimated at 2,500,000 feet.

Kansas

Lansing Lime Provides New Stafford County Oil Area

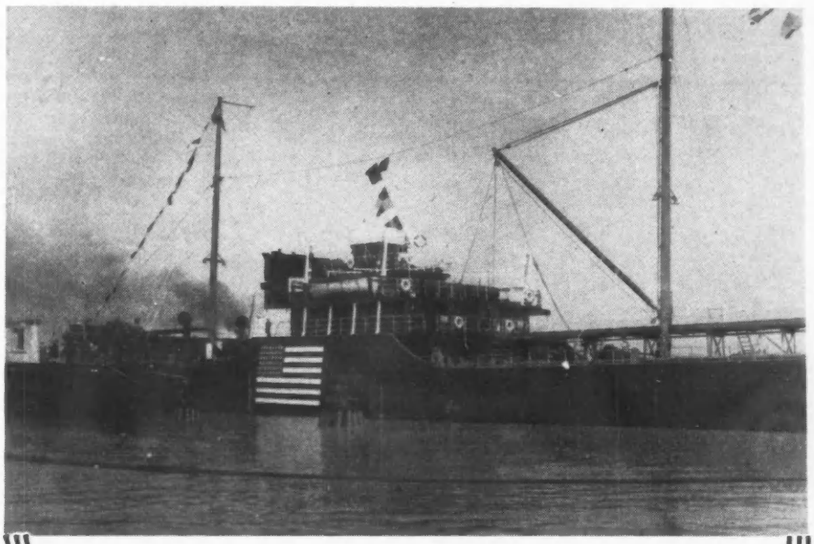
Shell Oil Company and Atlantic Refining Company's Reily 1, SWc 28-23-11w, wildcat between Zenith and Richardson pools, Stafford County, opened Lansing-lime production after establishing a bottom hole bomb potential of 1677 barrels of fluid, 20 percent basic sediment and water, or 1342 barrels of 25-gravity crude per day. It is designated as Riley pool. Lans ing lime, topped at 3323 feet was perforated with 36 shots at 3451-61 feet and 36 shots at 3483-93 feet. Pay section was jetted with 6000 gallons of acid.

Huse Williams and W. W. W. Drilling Company took over Seaney, Clampitt & Carnihan et al's Boyd 1, CW½ SW SW 4-21-14w, wildcat southwest of Hiss pool, Stafford County. New operators have plugged back to 3408½ feet and are cleaning out prior to testing Kansas City-Lansing zone. At 3400-09 feet, hole filled 3000 feet with water after acid treatment of 3000 gallons. Heavy black oil showed in core at 3339-43 feet.

Atlantic Refining Company and J. E. Abbott defined the southeast limit of Wilson pool, Cowley County, at Moyer 1, NE NW SE 9-33-6e, ½-mile from production. Arbuckle lime, topped at 3492 feet, had core at 3492-94 feet which showed heavy dead oil, while at 3494-97 feet, hole filled with water.

Marylyn Oil Company, Schneired & Pulse et al's Jackson 1, CEL NE NW 1-27-13w, wildcat 1¼ miles northeast of Iuka pool in Pratt County, topped Simpson at 4201 feet and set 7-inch at 4226 feet. When plugs were drilled to 4237 feet, salt water encroached. Operators were deepening to the Arbuckle below 4350 feet, with 1000 feet of water in the hole. Well elevation is 1903 feet.

Derby Oil Company and Crow Drilling Company et al's Hancock 1, CSE SE 10-32-12w, between Medicine Lodge and Whelan pool, Barber County, logged good oil showings in Mississippi lime at 4315-22 feet. Drill will penetrate the Arbuckle lime before plugging back to test upper shows. W. J. Coppinger and Joe Quigley farmed out this acreage from Skelly Oil Company and made deal with Derby Oil Company to drill the wildcat. Skelly Oil Company, The Carter Oil Company, Indian Territory Illuminating Oil Company and Transwestern Oil Company are supporting the venture.



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North Texas

Montague County Gets New Record for Production Depth

The northwest portion of the Fort Worth Syncline has established a new depth record for North Texas in recording a Bend lime strike in western Montague County, 5½ miles west of Bowie. Tom B. Owens and Larry Hults' Tucker 1, TE&L Section 2836, opened the new pool September 15 from broken saturation at 6016-50 feet, having drilling plugs from 7-inch pipe at 6016 feet with tools. Top of Bend was called at 6010 feet. The well was flowed at intervals while trying to remove cavings, and latest gauge placed the yield at 230 barrels by heads in 19 hours, with an approximate flow of 620 barrels over a 47-hour period. Gas volume is rated at 250,000 feet daily. Tubing will be run to continue tests. Owners hold lease on about 5100 acres around the well, and may use acid to boost the output. An abundance of pipe line facilities are in the immediate area.

The northwestern Wise County prospect of Britt Cranfill, C. E. Rodgers et al on the McKay 82½-acre tract, 2 miles west of Park Springs, strengthened its bid to become the first producer in the county when drill-stem test at 5820-50 feet yielded nominal gas blow, then recovered 180 feet of rotary mud and 250 feet of oil-cut mud, with 1450 pounds bottom-hole pressure. Show of gas was attained when formation tester was previously used at 5804-5832 feet, but the tool failed to close. Drilling was resumed late last week to fulfill 7500-foot depth contract, or water in the Ellenburger, but the above showing in the Bend, topped at 5585 feet, will result in pipe being landed for a production test later. Summitt Drilling Corporation is drilling the test for a 1500-acre lease spread and a $20,000 purchase letter posted by Stanolind Oil & Gas Company for 1332 acres of the drilling block. Walter H. Gant et al's Will Laird 1, southwestern Montague County prospect, 2¾ miles north of McKay 1, remains idle in Simpson at 6651 feet with 7-inch cemented at 6641 feet. An oil producer is due to be attained from conglomerate at 5848-58 feet in Bend, topped at 5690 feet or 135 feet lower subsea than the Wise County test.

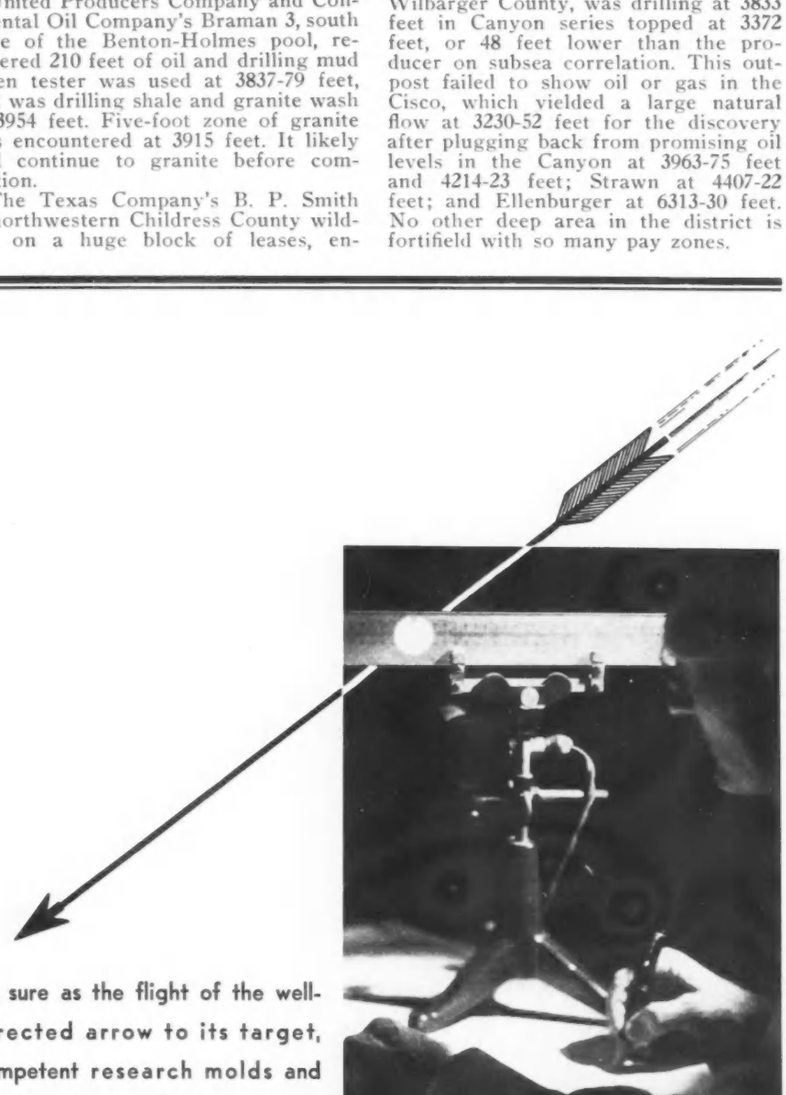
Third Bend Well at Bonita

Sinclair Prairie Oil Company's Howard 3, northeast corner of the Bonita pool discovery site, flowed 229½ barrels of oil on 3-hour potential gauge through open tubing, making the third producer from the upper Bend conglomerate. Production is from 5234-38 feet, with top of Bend at 5213 feet. The company's Lee 2, offsetting the most easterly producer, is awaiting test after indicating flowing production at 5445-56 feet. It will be the sixth well for the lower pay. Magnolia Petroleum Company's Gilbert 3, north outpost, yielded water when tester was used on Ellenburger at 5977-6003 feet. Seven-inch pipe was cemented on bottom, and will be perforated at 5468½-78 feet. A. R. Dillard and E. C. Norwood's Holland 1, a mile north of the townsite, halted at 5995 feet, pending decision whether to abandon or run pipe and test promising show at 5505-13 feet. Four attempts to use tester failed.

United Producers Company and Continental Oil Company's Braman 3, south edge of the Benton-Holmes pool, recovered 210 feet of oil and drilling mud when tester was used at 3837-79 feet, and was drilling shale and granite wash at 3954 feet. Five-foot zone of granite was encountered at 3915 feet. It likely will continue to granite before completion.

The Texas Company's B. P. Smith 1, northwestern Childress County wildcat on a huge block of leases, encountered a fishing job in hard chert at 5568 feet, and is slated to abandon after attempting to salvage 10¾-inch pipe that was cemented at 2000 feet. Another test is in prospect for the block.

Amerada Petroleum Corporation's Parker Bros. 1, a mile southeast of its Fargo pool discovery in northwestern Wilbarger County, was drilling at 3833 feet in Canyon series topped at 3372 feet, or 48 feet lower than the producer on subsea correlation. This outpost failed to show oil or gas in the Cisco, which yielded a large natural flow at 3230-52 feet for the discovery after plugging back from promising oil levels in the Canyon at 3963-75 feet and 4214-23 feet; Strawn at 4407-22 feet; and Ellenburger at 6313-30 feet. No other deep area in the district is fortifield with so many pay zones.



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Shell Oil Company's Coleman 1, eastern Archer County wildcat, 2½ miles northeast of the Chalk Hill deep pool, was drilling shale at 4535 feet on a 5500-foot depth contract. Show of oil was passed up at 4516-31 feet in sand. An oil producer from the Strawn at 3648-3700 feet is virtually assured, as formation tester used early in September yielded sufficient oil to make a well.

Clay County continues to account for a large quota of deep wildcatting. Horton, Wiggins and Phillips Petroleum Company's Howard 1, which has been in process of completion nearly 3 week from Bend at 5460-88 feet, flows by heads at irregular intervals, and may be reacidized. Swabbing has been resumed to try and stimulate the gas flow. Frabor-Hodges Corporation and Sinclair Prairie Oil Company's Kinder 1 became the second outpost failure for the Kinder one-well pool in abandoning in dry Strawn at 4350 feet. Jones Associated Oil Company, Roberts & Lynch's Edwards 1, a mile northwest of Ralston, was drilling at 5775 feet on a 6500-foot contract. W. B. Omohundro et al's Wynn 1, 5½ miles west by north of Bellevue, tested 200 feet of fluid when drill-stem test was used at 5870-6070 feet, and was drilling at 6080 feet in Ellenburger, topped at 6063 feet. It was drilled originally to 6070 feet by Youngblood-Foree et al. Omohundro et al's Kempner 1, wildcat that was abandoned at 4268 feet by Wood Petroleum & Royalty Corporation, was drilling at 5440 feet.

Raise Harper Field Gas/Oil Ratio Allowance

The Texas Railroad Commission has revised its gas/oil ratio rules for the Harper field, Ector County, to increase the allowance from 2000/1 to 4000/1. At a recent commission hearing, operators asked for a maximum allowance of 8000/1.

Indicate Denial of September Texas Proration Hearing

The Texas Railroad Commission has indicated that it will deny a reported application of the Independent Oil Producers Equity Association for a statewide proration hearing to be held during September. Clint Small, attorney for the association, was said to have made the request.

Commissioners Jerry Sadler and Ernest O. Thompson indicated they saw no reason to hold another hearing until November. At that time, a hearing would be necessary as the state-wide order expires December 1.

Ask Special Consideration for Two Johnson Field Wells

Sunray Oil Company has asked that wells drilled in the Johnson field, Ector County, prior to July 10, 1940, be given full unit credit where they are located on 40 acres, even though they are nearer than 1320 feet to the nearest well.

The company has two wells drilled on an 80-acre lease which are only 1236 feet apart. Under the rule in effect now, the allowable of each is reduced in proportion to the square of the distance to the nearest well.

There was no objection to the Sunray proposal, but Stanolind Oil & Gas Company objected when Sinclair sought to have exempt two of its wells which were drilled on 40-acre units, contending that they did not come within the call of the docket. The objection was sustained.

Indicate Germany May Demand French Tank Cars

Journal Officiale, of Vichy, France, last week declared that companies owning tank cars for the transport of oil or wine will be obliged to furnish them to the national railways if they should be demanded in fulfillment of the armistice terms with Germany, or if they should be needed to satisfy the needs of the occupying authorities.

Texas Hearings

The Texas Railroad Commission has scheduled the following hearings:

The League City field, Galveston County, revision of operating rules, September 27.

Revision of the method of allocation in the Rotan field, Fisher County, October 7.

Special operating rules for the area surrounding the Wiegand Brothers' W. C. Hill 1, Caldwell County, September 30.

Application of Stanolind Oil & Gas Company to clear oil produced from its Alta Loma well which ran wild, September 27.

Operating rules for the Neolke field, Crockett County, September 27.

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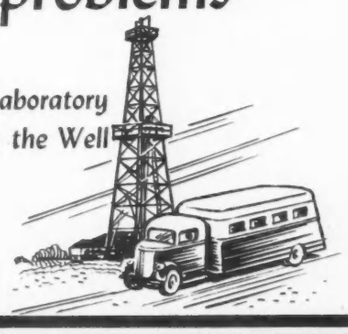

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West Texas

Archer County Wildcat Shows; Second Well at Sand Hills

The Southwestern Andrews County wildcat of Phillips Petroleum Company on the Frank Cowden-Embar ranch, NWc T&P Section 5, Block 44, T-2-N, showed small amount of oil and gas on swabbing test through tubing at 4300 feet. It is scheduled to deepen. Top of Yates frosted grains was called at 2630 feet, and first brown lime at 3770 feet, with an elevation of 3238 feet, making it structurally high for the area. It is 4 miles west of the Emma pool, and 3½ miles southeast of the West Andrews three-well pool.

The Ellenburger horizon on the south end of the Sand Hills field, Crane County, contributed a second prolific well for the area when American Liberty Oil Company et al's Tubb 10-a, near center of south line PSL Section 11, earned a potential rating of 2876 barrels natural from saturation at 5746-90 feet. Tested via open casing and tubing, the well flowed 81 barrels the first hour and 141 barrels the last hour of 6-hour gauge, with average gas/oil rato of 464/1.

Amerada Petroleum Corporation et al's Todd 1, west outpost for the Todd deep area, Crockett County, has plugged back from 6074 feet to 5898 feet, or 70 feet in the Crinoidal zone. Water was found in the lower section of the lime after passing up oil production between 5838-95 feet. J. K. Hughes Oil Company's Shannon 1, north outpost for the Soma pool, was drilling at 2330 feet with small shows of oil and gas at intervals below the Soma sand, topped at 1532 feet, or 1331 feet above sea level.

Texas Pacific Coal & Oil Company's Eddleman 1, Upton County semi-wildcat and 1¾ miles south of the McClintic pool, was running tubing after swabbing 50 barrels daily following 900-quart nitro shot at 2945-3250 feet.

Duggan-Slaughter Extension

Duggan-Slaughter district recorded another major extension that will pave the way for the drilling of scores of additional wells. Development of the vast amount of acreage proved this year will assume large proportions when the trunk line outlet now under construction is placed in service next December, and the 3-county field is destined to be one of the most active in West Texas throughout 1941.

Magnolia Petroleum Company's Mallet 1-D, C Labor 9, League 49, Edwards County School Lands, Hockley County, expanded the mid-section of the field to the north in flowing 22 barrels hourly, with 5 percent acid sludge, after treating pay at 4955-90 feet with 7500 gallons. It is 2 miles northeast of an isolated producer and 2½ miles northwest of production near Sundown. Two more outposts for the north rim of the field have been authorized by the company. These involve Mallet 1-G, NWc Labor 9, League 50, and Mallet 2-G, SEc Labor 4, League 49. Magnolia Petroleum Company's Woodley 1, SEc League 57, 1½ miles north of nearest production in the Duggan sector, Cochran County, flowed 102 barrels oil by heads in 14 hours after reacidizing with 3000 gallons, and likely will be given additional acid treatments. Production is from broken saturation at 4915-85 feet, with an elevation of 3663 feet. The company has made location for Mallet 2-C, NWc Labor 5, League 50, short distance southeast of the above. Its Mallet 1-C, 5½ miles due south and offsetting an isolated producer, swabbed 4 to 5 barrels hourly, 8 percent b.s., after using 4500 gallons of acid at 5035-69 feet, and will retreat.

Dawson County Failure

Dawson County accounted for a wildcat failure, and a second prospect has cemented pipe for a production test. Sloan & Zook Company's Sypert 1, SEc T&P Section 22, Block 34, T-4-N, southeast corner of county, halted after encountering sulphur water at 4072 feet in solid lime, topped at 3610 feet, with an elevation of 2855 feet. Magnolia Petroleum Company's Sandidge 1, NEc SW E. L. Ry. Section 110, Block M, 3 miles east by south of nearest production in the Cedar Lake 10-well pool, logged three thin saturated lime zones between 4931-5057 feet, while electrical log listed porosity and saturation at 4925-30 feet and 4955-57 feet. Top of brown lime was called at 4210 feet and solid lime at 4810 feet, with an elevation of 3189 feet, being 339 feet and 344 feet lower sub sea, respectively, than the same markers recorded by Stanolind Oil & Gas Company's Green 1, nearest producer. However, Sandidge 1 is only 169 feet low on top of saturation, using the 4925-foot measurement, thereby indicating a potential extension for Cedar Lake, if production occurs.

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F. J. Downey and Fred Postelle have financed their proposed Gaines County wildcat previously listed for the F. & M. National Bank tract, C NW SE Section 368, Block G, CCSD&RGNG Survey, 8 miles west of the south end of the Seminole field. In the latter area, Magnolia Petroleum Company and Atlantic Refining Company's H. & J. 12-265, situated on the west edge of production, excluded water by re-cementing the oil string and plugging back from 5285 feet to 5250 feet. Swabbing test averaged 5 barrels of oil hourly after conditioning the hole, and the oil level rose to 2900 feet after perforating at 5200-10 feet and 5225-45 feet. Acid treatment will follow. Development of the Seminole field is due to continue on the present active basis beyond this year.

Culbertson & Irwin, Inc. are offering lease spreads as protection against a proposed Ordovician test to be drilled on the R. G. Heiner tract, C NE NE CC&SF Section 589, being south of the Pecos Valley shallow district. Taubert-McKee et al's Crockett 1, Northern Pecos County Ordovician wildcat, was drilling sandy-lime at 3970 feet.

East Texas

Third Producer Indicated for Chapel Hill's North End

Two outposts on the north end of the Chapel Hill structure, Smith County, apparently missed the prolific gas-distillate horizon, but one gives promise of becoming the third oil producer. Comparatively thin producing zones and low initial yields of oil and gas-distillate wells completed to date have caused lease owners to proceed cautiously with development, although short-term leases will require considerable drilling within the next 12 months.

Shell Oil Company's Kinsey 1, north offset to the discovery oil well, yielded four stands of oil and three stands of muddy water, with salty taste, when formation tester was used in the Pettit at 8050-8107 feet. The gas volume was comparatively small. The test was drilling at 8180 feet, and may continue to the Travis Peak before running pipe. Sun Oil Company and Shell Oil Company's Mosley 1, 4000 feet west by south of the oil discovery, was running pipe to test nominal saturation logged in the Pettit, topped at 8051 feet by log with an elevation of 517 feet. It was bottomed in Travis Peak section at 8223-76 feet.

The Hawkins structure, southeast Wood County, has been assigned a Woodbine test by Bobby Manziel et al, who have a 1000-acre lease block with considerable royalty protection. Derrick is up for F. M. Morrison 1, southeast corner of 65-acre tract, Pollock Survey, 3 miles northwest of Hawkins. Exceptionally high prices have been made the past year by majors for leases to the east and southeast of the above project in anticipation of the drilling of a lower Trinity test by Humble Oil & Refining Company.

Voth Field Hearing

The Texas Railroad Commission has scheduled a hearing for September 30, at Austin, on an application to increase the allowable for the Voth field, Cooke County.

New Anti-Mexican Import Bill Offered by Texans

In a new attack against heavy Mexican oil imports, Representative Hatton Sumners of Texas, chairman of the Texas delegation committee appointed last week to study the problem, introduced a bill in the House September 19 vesting in the President the discretionary power to modify import duties in the case of commodities which have not been paid for or satisfactorily arranged for.

Introduction of the bill followed a meeting of the committee at which the results of a week's study of the oil question were reviewed. It was admitted that the Sumners bill is, in effect, merely a substitute for the McCormack measure prohibiting the importation of "stolen goods" and aimed largely at oil from American properties expropriated by the Mexican government.

Since the McCormack bill was tabled because of the opposition of the State Department, it is not expected that the new bill will receive serious consideration, particularly in view of efforts to adjourn the session this month. Further, it was pointed out in interested circles, since it gives the President the authority to modify duties at his discretion, it is not apparent how it would give relief over the opposition of the Secretary of State.

The committee of which Representative Sumners is chairman was apopinted at a caucus of the Texas delegation September 11. Other members are Representatives Luther A. Johnson, Charles L. South, Ed Gossett and Lindley Beckworth.

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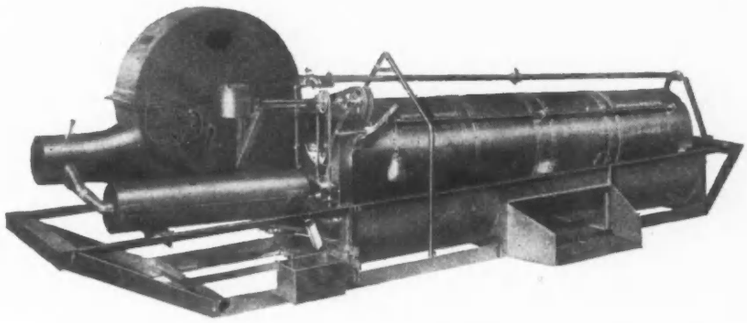

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Southwest Texas

Lolita Production Extension to Townsite Indicated by Show

Lolita townsite, Jackson County, has its first potential producer in Shield & Rutherford's Mitchell 1, in the northeast corner of the town. It cored the discovery sand at 5931-45½ feet and a drill-stem test recovered sufficient oil to indicate a producer. It drilled to 6575 feet, failing to find the 6400-foot sand.

Between this well and the discovery, Shell Oil Company's Willoughby 1, in Block 33, cored the lower sand section at 6378-95 feet, and completed through perforations at 5926-32 feet as an average producer. This expanded the 6300-foot pay more than 7000 feet west.

One mile south of the field, G. C. Glasscock's Walker 1, running high, was coring below 5969 feet. It should have had the sand at this level.

Wellington Oil Company definitely merged Minnie Bock and Clara Driscoll fields, Nueces County, with Howze 1, SE Section 56. The well had sand difficulty and was making some salt water. After perforating at 3819-22 feet, it flowed 61 barrels of fluid per day through 5/32-inch choke under 140 pounds working pressure. Casing pressure built up to 680 pounds.

H. R. Smith and H. J. Mosser's Schumacher 1, Reynolds Survey, ½ mile southwest of the Orange Grove townsite in Jim Wells County, opened a new field in the Bierstadt sand. Perforations were made at 4818-18½ feet and the well flowed 108 barrels of 28-gravity oil in 24 hours through ⅛-inch choke. Pressures were 420 pounds on tubing and 850 pounds on casing, gas/oil ratio being 325/1.

On the west side of the Wade City field, Anderson-Prichard Oil Corporation's Mueller 1 flowed 15 percent salt water and 85 percent oil on a production test from perforations at 4909-13 feet. The well gauged 300 barrels of fluid in 24 hours through 3/16-inch choke under 525 pounds tubing and 700 pounds casing. The well, opening Alice sand production for the field, was given a squeeze job and a new production test was under way. W. R. Quin's attempt ¾ mile northwest failed with salt water in Schumacher 1, abandoned at 5204 feet.

Two Wilcox Showings

More than 2000 feet below the top of the Wilcox formation, Atlantic Refining Company picked up an oil and gas sand which has producing possibilities. W. E. Conwell 1, at Thomaston in DeWitt County, is preparing to drill plugs in casing set at 9952 feet. The test had topped a sand at 9800 feet and found broken formation to bottom. It logged an oil and gas sand at 7896-7925 feet, which corresponded to the discovery producer one mile southwest. The first well made gas and distillate from upper Wilcox. The new discovery proves a series of producing sands are present in Wilcox. During the earlier days of the play, it was believed that all of the production in the zone would be found within several hundred feet of the top of the marker. This was disproved recently by H. R. Cullen et al's discovery at Washburn in LaSalle County. The Washburn well topped Wilcox at 3612 feet, drilled to 8300 feet, or the full section, and was plugged back. It made oil with some water through perforations at 5417-25 feet, again at 5060-67 feet, and is now flowing from perforations at 4860-67 feet.

Edwin M. Jones may have a new Wilcox field in Live Oak County. George West 1-B, 2 miles west of George West, was waiting on cement to set at 8387 feet. It had a sand at 8138-54 feet with distillate showing; 30 feet of additional formation was sand and shale. Upon reaching 8387 feet, it tried to blow out. Pumps were compounded and additional power source obtained to pump in commercial mud and cement. Finally the 4½-inch drill pipe was cemented on bottom. This pipe will be perforated at the total depth for a test of the sand in the Wilcox zone. Several more tests will be made in the region which cut like sand while drilling. If this fails, the well will be completed as a gas and distillate producer at 8138-54 feet. The upper sand is believed to be in the Carrizo zone.

Jim Hogg Extension

Completed as a gas and distillate well, The Texas Company's E. L. Armstrong et al 1, expanded the Gutierrez pool of Jim Hogg County 6000 feet south and has opened a new sand at the top of the Cockfield formation. The well, in the northeastern portion of Section 90, was carried to 3691 feet, plugged back to 3656 feet and completed at 3618-56 feet. It made several million cubic feet of gas and flowed 15 barrels of clear distillate per day through ¼-inch choke under 1200 pounds tubing and 1300 pounds casing pressures.

In Zapata County, Hagan & Stewart were attempting completion of F. G. Martinez 3, possible discovery of a new pool three miles north of Charco Redondo field. The well, in Block 84 of the McCollugh subdivision, found sand at 1215-32 feet, carrying an oil and gas showing.

Extension to the North Rincon field more than two miles northeast in Starr County was anticipated with Sun Oil Company completing Mateo - Saenz - State 1, Survey No. 80. The test had been carried to 5590 feet then plugged back, perforations being made at 5502-5505 feet. A production test was under way late in the week.

The wildcat topped the sand at 5466 feet. A drill-stem test of the lower portion of the hole indicated a good producer. This sand is separate from the one productive in the only other producer in the field.

Texas Permits

The Texas Railroad Commission last week issued permits for 201 wells, 108 more than were authorized the previous week.

There were two permit approved in the East Texas field, while nine locations were listed from the remaining portion of the East Central Texas area.

Southwest Texas held first place with 55 locations, including 10 in Duval County, and Gulf Coast producers reported 30 permits, 12 of which were in Jackson County.

West Texas operators were allowed to drill 38 wells, including 10 in Ector County, while 26 locations were authorized in the West Central Texas district. From the North Texas district, 47 permits were reported, including 15 in Archer and 10 in Wichita County, while operators in the Panhandle were permitted to drill 14 additional wells.

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Texas Gulf Coast

Sheperd Strike Indicates San Jacinto Production

Harrison & Abercrombie's Sun Oil Company Fee 1, Sheperd prospect, San Jacinto County, indicated the first production for the county when it flowed at the rate of 150 barrels daily from Wilcox sands just above the 8300-foot level. The wildcat is the operator's third in recent months, located midway between two deep dry holes. Production, if sustained, will be the first for San Jacinto County.

The Ogburn field, northwest Harris County, was not confirmed in the discovery sand by Richardson and Christian-Carpenter Drilling Company's Rorick 1, which tested a strong salt water flow at 6937-47 feet, with gas and distillate. Operators squeezed and will probably reperforate in the same section. This test is 1¾ miles southwest of the discovery, which produced from 6918-26 feet. W. L. Goldston completed the second well in the field, Josey 1, 2500 feet northwest of the discovery, at 6654-58 feet to open a new sand.

Official potential for Burkett 1, H. C. Cockburn's Dyersdale discovery in Harris County, was 455 barrels of 23-gravity oil daily through ¼-inch choke from Frio sands at 4067-72 feet. (The horizon was erroneously reported as Miocene on this page in the last issue.) Gulf Oil Corporation was connecting to their trunk line 2 miles north. Cockburn rigged Burkett 2, offset to the discovery, on 20-acre spacing, and contemplates 4 other offset locations. The Pure Oil Company is expected to enter the play, but has yet made no authorization.

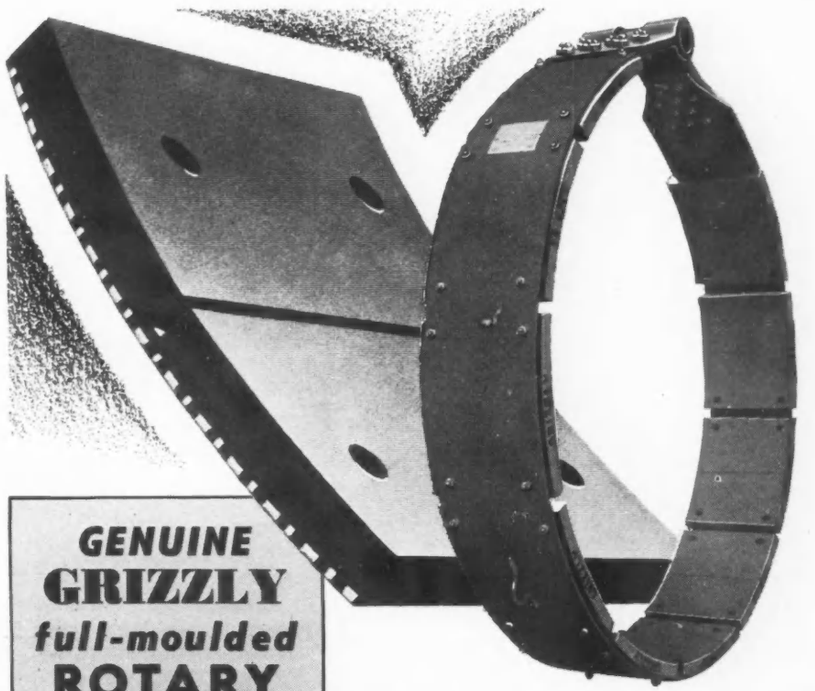
Galveston Bay activity, at its highest point in history, was augmented by several Humble Oil & Refining Company wells. The company located State 3-A-248, 5100 feet southwest of State 1-A, distillate discovery at Red Fish Reef, and drilled to surface casing landing; located State 4-A-203, 6400 feet northeast of State 3-A-248, State 7-A-264, and State 9-A-263, all in the Red Fish Reef area. State 2-A-246, 1150 feet southeast of the discovery, was coring at 9596 feet, 700 feet below the discovery pay. State 1-B-288, 17 miles southeast of LaPorte, 4 miles west of Red Fish Reef, was reaming at 9044 feet. In the Fishers Reef area, 11 miles southwest of Anahuac, Standard Oil Company of Texas and Salt Dome Oil Corporation abandoned State 1-66 at 9126 feet. This test was 7000 feet south of the operators State 61-54, which in May indicated production from Frio before abandonment. Humble Oil & Refining Company staked State C-2, 5100 feet northwest of the firm's State 1-C-45, drilling at 8580 feet.

In the East Bay area, northeast of Bolivar, The Texas Company's State 1-237 was drilling at 7000 feet. In the third active marine area, the Gulf of Mexico prospect off the Jefferson County coast at Sabine Pass, Hall Jordan Oil Company, of Oklahoma City, was drilling past 7500 feet in State 1-72, and driving piling for State 2-71, 9000 feet south of State 1-72.

Gulfboard Oil Corporation was waiting on cement at 2510 feet in Milburn 1, Reynolds Survey, Galveston County, latest attempt to open the Southwest Algoa prospect upon which The Texas Company and Glenn McCarthy recently drilled a 10,000-foot dry hole. Contract depth is 9250 feet, with objective the Alta Loma sand. Other wildcat starts were Baker and Coastal Drilling Company's Gibbs Bros. 1, Foster Survey, San Jacinto County, a 5500-foot test 5 miles north of Point Blank, and Humble Oil & Refining Company's Melde et al 1, near Giddings in the Rucker Survey, Lee County. Wildcat abandonments included Thomas & Schleicher Company 1, Franklin & Tidemann's 4660-foot failure on the Colmesneil prospect, Tyler County.

Wildcat activity elsewhere moved into critical stages. Gulf Oil Corporation's Phoenix 1-A, 10,000-foot test in the Hull field, Liberty County, was drilling past 7675 feet. Pan-American Production Company's Sisk 1, 2000-foot extension attempt on the south flank of Markham dome, Matagorda County, ran electric log at 6000 feet and deepened. Cities Service Oil Company drilled out of surface pipe in Keuhn 1, Addicks area, Harris County. Continental Oil Company drilled past 8900 feet in Davis 1, Muldoon League, South Clear Lake prospect, Galveston County.

Humble Oil & Refining Company en-



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tered development of the Rowan field, Brazoria County, with location for Hubbard 1, offsetting Rowan & Nichols' Hubbard 2, producer. Stanolind Oil & Gas Company's Hodnett 1, south offset to the discovery, set surface pipe at 3710 feet. It appears that this operators' Hulen 2, second test at Alta Loma, Galveston County, will of necessity be completed in the discovery pay at 9160 feet, as test at 9820-30 feet recovered salt water. Perforations may be made in a 9300-foot sand before a test of the discovery level.

Pearsall Field Hearing

Operators producing from the Navarro sand in the Pearsall field, Frio County, have requested an allowable of 65 barrels per well. Evidence presented at a Texas Railroad Commission hearing last week shows that the current allowance is 31 barrels per well.

There are now five wells producing from this sand, found at 3940 feet. Only one is capable of producing more than 31 barrels a day, and it can produce 65 barrels daily without waste.

The oil produced is 25-gravity asphalt base crude, and Humble Oil & Refining Company has agreed to purchase the additional production. Wells producing from 5400 feet in the field are now allowed 61 barrels daily, and no increase was asked for them.

Issue Pittsburg Field Rules

Standard 40-acre spacing for wells in the Pittsburgh field, Camp County, is provided in a new Texas Railroad Commission order, effective September 16.

Allowables are to be based on acreage and per-well, with 50 percent allocated on each factor. A maximum gas/oil ratio allowance of 2000/1 is provided. Rules call for 800 feet of surface casing cemented to the surface, and an oil string cemented 1000 feet above the shoe.

Louisiana Gulf Coast

Wildcat Near Depth Record; Flank Production at Welch

Prospects for a new depth record were indicated by Superior Oil Company's State-Calcasieu Lake 3, wildcat on the Calcasieu Lake salt dome, Cameron Parish. The test, which has already eclipsed 1940 records, was drilling past 13,115 feet, with ultimate depth not decided. This well is the fourth 13,000-foot test in South Louisiana, the three others being all Fohs Oil Company, Terrebonne Parish operations. State 1, Bay Baptiste dry hole, was drilled to 13,409 feet for the depth record. Buckley-Bourg 1, De Large field, was drilled to 13,333 feet and produced from 13,266 feet, deepest production in the world. Buckley-Mahler 1, De Large field, was drilled to 13,248 feet. The Calcasieu Lake test yielded side-wall samples at 9450-60 and 9485-95 feet with gas odor and oil cut, and an oil sand at 8560-70 feet, with all tests recovering salt water.

Cheesman & Cranston discovered first flank production on Welch dome, Jefferson Davis Parish. Bourgeois 1, south flank wildcat, flowed 4 barrels of 39.5-gravity oil hourly through ¼-inch choke from 5320-26 feet. The well, Section 23-9s-5w, made distillate on test at 5600 feet, and gas and distillate at 5301-16 feet. Location is 50 feet east of a Tide Water Associated Oil Company 6107-foot dry hole which found non-commercial gas at 5175 feet. The discovery was shut in to replace wellhead fittings. Union Sulphur Company spudded Fontenot 1-B, Section 35-9s-5w, another flank test. The flank possibilities of this known dome have long interested operators, although a diverse lease ownership deterred drilling. Previous production was from 13 stripper wells in caprock at 1200-1350 feet.

Completion gauge of Union Sulphur Company's Calcasieu National Bank 1-A, Section 2-8s-4w, discovery at China, Jefferson Davis Parish, was 33 barrels of 51.2-gravity distillate and 3,500,000 feet of gas daily through ⅛-inch choke from 9300-04 feet. Tubing pressure was 900 pounds, casing pressure 3200 pounds. The strike, thirteenth on the Louisiana Gulf Coast in 1940, is 2 miles west of the South Elton distillate field which produces from the Marginulina at 9137 feet. The structure was found by Union Sulphur Company, principal leaseholder, with reflection seismograph in 1938.

The fate of Erath, Vermilion Parish, as an oil field, will depend much on success of Humble Oil & Refining Company's Vermilion Parish School Land 1, ½ mile west of The Texas Company's discovery. This test was drilling past 11,566 feet in hard sand 200 feet below the discovery distillate sand. Coring, started at 10.350 feet, recovered gas odor at 10,370-380 feet, hard sand with no show at 11,388-89 feet, sand with gas odor at 11,390-405 feet, sand with shale streaks at 11.400-420 feet, six feet of sand at 11,480-90 feet, with upper three feet gas, lower three feet oil sand. If this test does not produce, prospects for Erath development are limited to the east, northeast, and south, as Strake Petroleum Corporation and G. H. Vaughn have put down dry holes on the north and southeast.

Superior Oil Company continued its efforts to work out the fault pattern and find flank sands at Bayou Boullion, St. Martin Parish, staking Rycade 3. 250 feet north of Rycade 2, abandoned two weeks ago at 3192 feet in salt topped at 3116 feet. The company's Iowa-St. Martin 1, two miles south of production, was fishing for stuck drill pipe near 7350 feet.

State-Lake Salvador 1, St. Charles Parish, The Texas Company's recent discovery for the Lake Salvador field, was killed to cut high gas/oil ratio and will be recompleted in the 9782-9800-foot sand which flowed 630 barrels of 37-gravity oil daily through ¼-inch choke to register South Louisiana's fourteenth 1940 field.

Prospect for a new sand at LaFourche Crossing, LaFourche Parish, shrank as Mikton Oil Company tested gas in a 10,127-130-foot sand that looked good in the cores from Martinez 4, 1400 feet east of the 1939 discovery. Operators drilled deeper into the Miocene-Oligocene contact which is now producing gas-distillate from two levels.

Martex Oil Company abandoned Musser-Davis 1, 1¼-mile east outpost in the Neale field, Beauregard Parish, marking the first definite limit to this 1940 discovery. Wilcox, topped at 8450 feet, was penetrated 378 feet. The test ran 120 feet lower than wells in the field proper.

Louisiana Acts to Curb Hot Oil Shipments

New regulations to combat running of oil produced in excess of state allowables, involving use of the mails to register all shipments, were announced last week by B. A. Hardy, Louisiana Conservation Commissioner.

The new order, effective October 1,

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is directed at barges and boats carrying oil and is a modification of the tender system.

"Beginning October 1, every barrel of oil shipped by barge or boat in Louisiana, both in interstate and intrastate commerce, must be listed in a special form to be provided by the department and sent through the mails to the department," Hardy announced at a state proration meeting.

Hardy indicated that the state already had a rather thorough check on pipeline shipments. The new forms will list by whom the consignments are purchased, how shipped, and to whom consigned.

"We don't want any hot oil in Louisiana, and we are not going to have any if it can be prevented," Hardy added.

Louisiana Permits

The Louisiana Conservation Commission last week issued 56 drilling permits, of which 33 were in North Louisiana divided among the following parishes: Bossier 2, Caddo 12, Claiborne 1, DeSoto 1, Grant 1, La Salle 9, Ouachita 2, Red River 1, Sabine 1, Tensas 1, and Webster 2. The 23 in South Louisiana were in the following parishes: Acadia 2, Ascension 1 ,Avoyelles 1, Beauregard 1, Calcasieu 2, Evangeline 2, Iberia 1, Jefferson 1, LaFourche 1, Plaquemines 1, Rapides 1, St. Charles 3, St. Landry 2, St. Martin 3, and Vermilion 1.

North Louisiana

Two New Wildcats Staked; Large Gasser in LaSalle

In the adjacent parishes of Caldwell and Tensas, H. L. Hunt, who has pioneered in Olla development, staked locations for wildcat tests. Hunt also made location for a second wildcat near Jena, LaSalle Parish, the new test to be Goodpine A-2, C NE SE NE 9-7n-3e, offsetting Goodpine A-1, in the same section, which is testing a series of sands in the Wilcox. Total depth is 3692 feet. In this area, Atlantic Refining Company's Goodpine 1, Section 27-10n-2e, drilled below 3395 feet.

Petersen Petroleum Company's Tremont Lumber Company 1, CNE SW 25-9n-2e, LaSalle Parish, drilled to 4020 feet, with 7-inch casing cemented at 3296 feet, and was completed as a 10,000,000-foot gasser after perforating casing at 3160-63 feet where some oil and water appeared with the gas.

Of six new wells completed last week at Olla, two were operations of Arkansas Fuel Oil Company and four were owned by Placid Oil Company (H. L. Hunt). These two companies own most of the acreage in this area and are carrying on a steady drilling campaign.

The fourteenth wet gasser for the Bisteneau field, Bienville Parish, was provided by Union Producing Company's Tooke Unit 1, Section 10-16n-10w, at 5346 feet, making 60,000,000 feet of gas daily.

The Ohio Oil Company's Taylor 15, Account 1, CSE 15-23n-8w, Haynesville, Claiborne Parish, drilled black shale at 9718 feet. Union Producing Company's deep test 2½ miles north of Lisbon production, seeking lower Marine production, was checking high and drilled at 7566 feet, expecting to start coring during the week-end.

Reports of discovery of a shallow salt dome at 350 feet by a geophysical unit on the O. E. Harper farm in SW SW 3-10n-1w, Winn Parish, has started a leasing flurry in that area.

Tide Water Associated Oil Company, which recently acquired producing acreage in the shallow Bellevue field, Bossier Parish, a truncated dome, was drilling two injection wells preliminary to launching a repressuring project in that field. Production is from the shallow Nacatoch at 300 to 400 feet.

Arkansas

Second Distillate Well for McKamie; New Miller Wildcat

Atlantic Refining Company's Bodcaw Lumber Company 2, SW SE 29-17-23, LaFayette County, at McKamie, flowed amber-colored distillate after perforating casing at 9200-42 feet, set on bottom at 9287 feet, with 211 shots. Electrical log showed top of Buckner at 8919 feet; Smackover at 9032 feet, Reynolds lime at 9048 feet, and main porosity at 9123-9257 feet. Elevation was 272 feet.

A Miller County wildcat, Love, Owen & Carter's Montana Realty Company 1, N½ SW SW 10-17-28, was rigging. One test was drilling at Magnolia, two at Dorcheat, and another wildcat in Miller County. Three small oil wells were completed in the old Urbana field, Union County, which recently has taken on new life.

The Arkansas Oil & Gas Commission closed in until the state-wide hearing on September 20 Oliphant Oil Company's Rowe 1, Section 16-17-20, northwest edge well at Magnolia, and Placid Oil Company's recently completed Booth B-2, Section 20-17-19, due to large amounts of water being made with the oil. The former well was reported flowing about 50 percent water, and the latter about 40 percent.

Cotton Valley Recycling Contract Awarded to Hudson

Hudson Engineering Company, Houston, has been awarded contract for installation of the recycling project and absorption plant in the Cotton Valley field, Webster Parish, Louisiana. Owners are The Ohio Oil Company and other operating companies in the field.

Plans call for handling 150,000,000 feet of distillate gas daily from Lower Marine horizons to be treated, and the residue gas to be returned to the deep horizons. It is expected that approximately 10,000 barrels of distillate daily will be recovered from this amount of gas.

Mississippi

Leasing Regains Momentum; Wildcats Staked in 2 Counties

Leasing activity, which during the late summer had shown some decline in Mississippi, has taken a new spurt

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California

Fresno County Wildcat Dry in Temblor and Eocene Zones

Kettleman North Dome Association failed to obtain commercial showings in its 322-18J, deep zone outpost test north of the northwestern tip of the Kettleman structure, Fresno County, Section 18-21-17. Bottomed at 10,912 feet, top of the McAdams was cored at 10,792 feet. The well swabbed wet from the Temblor and Eocene zones and was being abandoned.

In the Mount Poso area of Kern County, Universal Consolidated Oil Company was grading location for a test two miles northwest of the Dominion pool, Section 18-26-18. It is scheduled to examine the shallow Vedder zone.

In the Grapevine area at the southern end of the San Joaquin Valley, Kern Line Oil Company has resumed drilling No. 1, wildcat in Section 19-11-19, and has picked up showings which may revive interest in this general area. The test topped the Santa Margarita at 2885 feet, and the project was coring at 5280 feet in dark gray sand and shale showing some gas on the ditch. While coring at 5152 feet, the test encountered shale carrying appreciable quantities of oil interspersed with sand. Top of the lower Fruitvale was at 4830 feet.

Signet Oil Company has completed plans for a wildcat 3½ miles northeast of the northern tip of the Mount Poso field, Section 36-26-28, Kern County. Location falls a mile northeast of abandoned tests drilled by J. F. Hill several years ago. Objective is the Vedder zone.

Michigan

New Pool Opened and Two Wildcats Showing Well

The fourteenth oil discovery for 1940, a 668-foot Traverse well in Cass County, was completed, and two other wildcats showed promise of opening oil pools.

Fortney Oil Company and Cryden Oil Company's McDonald 1, Section 20-17n-14e, Huron County, flowed by heads 306 barrels for an average of 5 barrels per hour from Traverse at 1427 feet. It is the first well to show any commercial oil in the Traverse limestone in Michigan's "thumb" area. The 2600-3500-foot Monroe is being produced commercially in Tuscola County, and some oil has been produced from the 2400-foot Dundee zone. McDonald 1 was projected to the 2650-foot mark for Monroe lime production, being located a mile due south of Wallace Markle's Johnston 1, Section 8-17n-14e, which carried oil saturation at 2652 feet in the Monroe but which has been idle with a hole full of water at 2950 feet since early May.

The new test could not be completed immediately in view of an unprepared casing program for shallow production. A 5-inch producing string with bottom perforated joint was set with a packer, which promptly blew out. Both the 10-inch drift string (68 feet) and the 8-inch Berea water string (1067 feet) started to raise when an attempt was made to kill the well. Operators now plan to plug off the pay with gravel, hang the 5-inch and cement. Top of Traverse lime was logged at 1423 feet (elevation 709 feet) with an estimated 1,200,000 feet of gas at 1425 feet. Well filled with 36.6-gravity oil and started to flow by heads at 1427 feet, bottom hole. If McDonald 1 becomes a shallow Traverse lime pool opener as now indicated, it will be the first on the east side of the state. Traverse production from 600 to 2000 feet has been the major attraction in Michigan since 1938 in the Allegan, Bloomingdale and Grand Rapids districts. A wide-open drilling play could easily result from the strike. The Ohio Oil Company, with 400 acres two miles south of the McDonald 1, was reported the only major company in the district. Independents not only monopolize the acreage, but it is split between numerous operators. C. W. Teater and Wallace Markle, a comparative newcomer in the business, donated a 400-acre block for the test.

New Cass County Pool

Tamblyn Development Company's Woolverton 1, SE NE NE 22-8s-15w, Cass County, may create an interstate development problem for the first time in Michigan's oil history. The Woolverton 1, a wildcat, was completed in the Traverse at 668 feet, showing 100 feet of oil natural, but acidizing to a 13-barrel pumper. It is only 330 feet north of the Indiana-Michigan state line. Crude is a heavy asphalt oil of 22.1-gravity.

First potential pool opener for Osceola County, a district which has been played for 10 years to pick up a continuation of producing trends closer to the center of the basin, was indicated by Weber Oil Company's Gabel 1, Section 31-18n-10w, which drilled the objective Dundee dry but deepened to Monroe dolomite and logged 1400 feet of oil. Monroe top was checked at 3625 feet (elevation 1162 feet) and hole was bottomed at 3628 feet for test.

Rocky Mountain Area

North Baxter Basin Test Deepening to Tensleep

An extension test to the North Baxter Basin field, near Rock Springs, Sweetwater County, southwest Wyoming, Gus Pongratz's Clark 1, NE NE NE 22-19n-104w, encountered hot sulphur water in the Nuggett (Triassic) sandstone at 4300 feet. The test is deepening for the first deep well to the Tensleep (Pennsylvanian) on the Baxter Basin uplift.

On Middle Baxter, another extension test to a southwest Wyoming gas field, the Red Desert Oil Corporation's Edith Asdpen 1, CNW SW NW 34-18n-103w, Sweetwater County, was getting around circulation difficulties by running 8⅝-inch string to bottom at 3970 feet where drilling has been delayed for the past two weeks. On South Baxter, third extension test in the area, Union Gas Company (Ray Phoebus and A. B. Cobb & Company) was changing over to rotary at 2110 feet in Hummer 1, NW NE NE 6-17n-103w.

Two new wells, one an extension test, were started in the LaBarge field, active shallow drilling sector in Sublette County, southwest Wyoming.

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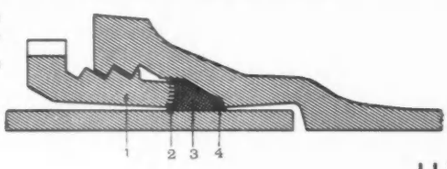

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California

Fresno County Wildcat Dry in Temblor and Eocene Zones

Kettleman North Dome Association failed to obtain commercial showings in its 322-18J, deep zone outpost test north of the northwestern tip of the Kettleman structure, Fresno County, Section 18-21-17. Bottomed at 10,912 feet, top of the McAdams was cored at 10,792 feet. The well swabbed wet from the Temblor and Eocene zones and was being abandoned.

In the Mount Poso area of Kern County, Universal Consolidated Oil Company was grading location for a test two miles northwest of the Dominion pool, Section 18-26-18. It is scheduled to examine the shallow Vedder zone.

In the Grapevine area at the southern end of the San Joaquin Valley, Kern Line Oil Company has resumed drilling No. 1, wildcat in Section 19-11-19, and has picked up showings which may revive interest in this general area. The test topped the Santa Margarita at 2885 feet, and the project was coring at 5280 feet in dark gray sand and shale showing some gas on the ditch. While coring at 5152 feet, the test encountered shale carrying appreciable quantities of oil interspersed with sand. Top of the lower Fruitvale was at 4830 feet.

Signet Oil Company has completed plans for a wildcat 3½ miles northeast of the northern tip of the Mount Poso field, Section 36-26-28, Kern County. Location falls a mile northeast of abandoned tests drilled by J. F. Hill several years ago. Objective is the Vedder zone.

Michigan

New Pool Opened and Two Wildcats Showing Well

The fourteenth oil discovery for 1940, a 668-foot Traverse well in Cass County, was completed, and two other wildcats showed promise of opening oil pools.

Fortney Oil Company and Cryden Oil Company's McDonald 1, Section 20-17n-14e, Huron County, flowed by heads 306 barrels for an average of 5 barrels per hour from Traverse at 1427 feet. It is the first well to show any commercial oil in the Traverse limestone in Michigan's "thumb" area. The 2600-3500-foot Monroe is being produced commercially in Tuscola County, and some oil has been produced from the 2400-foot Dundee zone. McDonald 1 was projected to the 2650-foot mark for Monroe lime production, being located a mile due south of Wallace Markle's Johnston 1, Section 8-17n-14e, which carried oil saturation at 2652 feet in the Monroe but which has been idle with a hole full of water at 2950 feet since early May.

The new test could not be completed immediately in view of an unprepared casing program for shallow production. A 5-inch producing string with bottom perforated joint was set with a packer, which promptly blew out. Both the 10-inch drift string (68 feet) and the 8-inch Berea water string (1067 feet) started to raise when an attempt was made to kill the well. Operators now plan to plug off the pay with gravel, hang the 5-inch and cement. Top of Traverse lime was logged at 1423 feet (elevation 709 feet) with an estimated 1,200,000 feet of gas at 1425 feet. Well filled with 36.6-gravity oil and started to flow by heads at 1427 feet, bottom hole. If McDonald 1 becomes a shallow Traverse lime pool opener as now indicated, it will be the first on the east side of the state. Traverse production from 600 to 2000 feet has been the major attraction in Michigan since 1938 in the Allegan, Bloomingdale and Grand Rapids districts. A wide-open drilling play could easily result from the strike. The Ohio Oil Company, with 400 acres two miles south of the McDonald 1, was reported the only major company in the district. Independents not only monopolize the acreage, but it is split between numerous operators. C. W. Teater and Wallace Markle, a comparative newcomer in the business, donated a 400-acre block for the test.

New Cass County Pool

Tamblyn Development Company's Woolverton 1, SE NE NE 22-8s-15w, Cass County, may create an interstate development problem for the first time in Michigan's oil history. The Woolverton 1, a wildcat, was completed in the Traverse at 668 feet, showing 100 feet of oil natural, but acidizing to a 13-barrel pumper. It is only 330 feet north of the Indiana-Michigan state line. Crude is a heavy asphalt oil of 22.1-gravity.

First potential pool opener for Osceola County, a district which has been played for 10 years to pick up a continuation of producing trends closer to the center of the basin, was indicated by Weber Oil Company's Gabel 1, Section 31-18n-10w, which drilled the objective Dundee dry but deepened to Monroe dolomite and logged 1400 feet of oil. Monroe top was checked at 3625 feet (elevation 1162 feet) and hole was bottomed at 3628 feet for test.

Rocky Mountain Area

North Baxter Basin Test Deepening to Tensleep

An extension test to the North Baxter Basin field, near Rock Springs, Sweetwater County, southwest Wyoming, Gus Pongratz's Clark 1, NE NE NE 22-19n-104w, encountered hot sulphur water in the Nuggett (Triassic) sandstone at 4300 feet. The test is deepening for the first deep well to the Tensleep (Pennsylvanian) on the Baxter Basin uplift.

On Middle Baxter, another extension test to a southwest Wyoming gas field, the Red Desert Oil Corporation's Edith Asdpen 1, CNW SW NW 34-18n-103w, Sweetwater County, was getting around circulation difficulties by running 8⅝-inch string to bottom at 3970 feet where drilling has been delayed for the past two weeks. On South Baxter, third extension test in the area, Union Gas Company (Ray Phoebus and A. B. Cobb & Company) was changing over to rotary at 2110 feet in Hummer 1, NW NE NE 6-17n-103w.

Two new wells, one an extension test, were started in the LaBarge field, active shallow drilling sector in Sublette County, southwest Wyoming.

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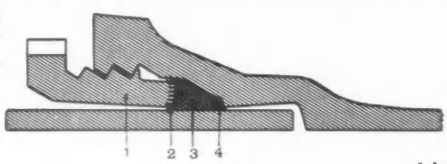

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RIDGID PIPE TOOLS

UNITED STATES WELL COMPLETIONS

Alabama

Madison County (Wildcat)—
W. W. Newman et al, Dunk Hill 1, 35-5s-2e ..... * 295

Arkansas

Nevada County (Stephens)—
O. F. Whitaker, Edwards 2, 3-15-20 * 2232
Union County (Urbana)—
Marine Oil Co., M. H. Simmons 4, 10-18-13 ..... 30 3517
Simmons 5, 10-18-13 ..... 145 3030
McCreslenn Oil Co., Parker 5, 3-18-13 ..... 85 3015

California

Fresno County (Coalinga)—
Section 30 Oil Co., No. 8..... 13 1238
Fresno County (East Coalinga Eocene)—
Standard, No. 44-19F.....2050 7822
Kern County (Cole's Levee)—
Ohio, KCL F-10.....1345 9820
Kern County (Midway-Sunset)—
Petrolia Corp., Wier 3..... 18 1265
Standard, No. 85-33D..... 153 3142
Kern County (Round Mountain)—
Trico O. & G. Co., Coffee 3..... 250 1400
Los Angeles County (Inglewood)—
R. R. Bush Oil Co., Sentous 1..... 360 8760
Los Angeles County (Montebello)—
Kern Oil Co., Ltd., Monterey 41... 298 7860
Standard, Braun 6..... 461 7780
Los Angeles County (Rosecrans-Athens)—
Union, Rosecrans 43..... 342 6466
Los Angeles County (Seal Beach)—
Tide Water, Bryant 5..... 303 5475
Los Angeles County (Wilmington)—
M.A.K. Oil Co., No. 3..... 180 3458
Union Pacific RR. UP 148..... 149 3837
Orange County (Huntington Beach)—
Signal Oil & Gas Co., Signal-Bolsa 14-A 890 4600
Signal-Bolsa 15-A..... 650 4589
Santa Barbara County (Santa Rita Hills)—
Tide Water, Souza 1..... * 3521
Santa Barbara County (Santa Maria Valley)—
Fred E. Cole, Tognazzini 1..... * 4379
Union, Le Roy 5..... 430 5721
Ventura County (Sespe)—
Merchants Pet. Co., Cochran 8.... 50 2805
Ventura County (Rincon)—
C. C. M. O. Co., Hobson B-37..... 640 4805
Ventura County (Ventura Avenue)—
General Pet., Barnard 19..... 486 8430

Illinois

Bond County—
Magnolia, Elam 2, sec sw sw 3-6n-2w 28 1024
Grigg 2, se ne ne 9-6n-2w..... 49 1026
Arrow Dr. Co., Spindler Inv. Co. 1, nwc sw sw 10-6n-2w..... 54 1018
Bruninga Fee 1, se sw nw ne 8-6n-3w ..... * 628
Spindler Inv. Co., Fee 2, sw ne nw 10-6n-2w 75 1012
Clay County—
Pure, Broyles Cons. 1, cw½ nw sw 3-2n-8e 212 3050
J. W. Rowe, Huffman 1, cw½ sw nw 20-4n-6e ..... * 2926
Clinton County—
B. F. Gloyd et al, Miller 1-D, nw ne nw ne 24-1n-1w..... * 2935
Max Pray, Brameier 1, sec sw sw 2-1n-2w 25 1321
Dick Duncan, Knolhoff 6, nwc nw 11-1n-2w 25 1212
Knolhoff 7, sw se nw nw 11-1n-2w 50 1324
Martin Jacobson, Knolhoff 3, ne se nw 11-1n-2w 40 1323
Paul Moseback, Maddox 3, se sw sw 4-1n-3w 192 2412
Maddox 4, nw sw sw 4-1n-3w.... 75 2410
Newton & Ward, Gross 2-D, ne se sw 5-1n-3w ..... * 1361
Douglas County—
J. J. Broadus, Bennett 1, nw sw sw sw 12-15n-9e ..... * 615
Edwards County—
Superior, Works 2, sw nw ne sw 18-2s-11e 600 3087
Fayette County—
Jennings et al, Morgan 1, sec sw sw 24-6n-2e ..... * 1665
Zephyr, Smith 10, nw se sw 31-6n-3e 107 1615
J. G. Reynolds, Bieber 1, nec sw ne 19-8n-3e ..... * 1660
Carter, Owens 6, nw ne nw 17-7n-3e 108 1590
Phillips 2, ne nw nw 1-8n-3e.... 126 1561
Gregg 3, ne nw se 13-8n-3e..... 144 1537
Larimore 3, sw nw nw 21-8n-3e.. 264 1581
Smith 1, sw nw se 35-9n-3e..... 10 1540
Hamilton County—
G. C. Howell et al, Sandusky 1, sw se nw ne 34-5s-6e..... 264 3000
Jasper County—
Conner & Arnold, Swick 1, se se ne 17-6n-10e 746 2819
Jefferson County—
Rodger C. Young, Whittington 1, se se sw 30-4s-3e..... * 3480
Lawrence County—
Robinson et al, Schrader 1, sw ne nw 33-3n-12w 68 2141
W. Payne, Monjar 1, sw ne nw 28-4n-11w ..... * 1964
Marion County—
Texas, City of Centralia 59, w½ nw nw 4-1n-2e..... 210 3505
Farthing 15, sw ne sw ne 4-1n-2e 34 2124
Centralia 69, nw sw nw ne 5-1n-2e 270 2190
Centralia 74, se sw ne 5-1n-2e.. 305 3497
Canull 28, se nw ne ne 6-1n-2e.. 189 2210
Johnson 29, se se 6-1n-2e..... 205 2160
Johnson 36, se nw sw sw 5-1n-2e 410 2180
Friedroch 20, cs½ ne ne 8-1n-2e.. 20 2100
Hamlin 8, se sw nw ne 4-2n-2e.. 80 2142
Centralia 73, se se sw 33-2n-2e..175 3525
Buckley 9, s½ nw se..... 150 3538
Kingwood, Spencer 1, nw nw sw 19-3n-3e ..... * 2776
Ohio, Murray 18, ce½ nw se 7-1n-2e 1600 3500
Rockhill, Foster 19, nw se se 7-1n-2e 850 3526
Big 4 Oil, Dean 3, swc 4-2n-1e.... 500 2970
W. K. Jones, I.C. RR 1, sw ne se sw 5-2n-1e ..... * 3033
Ponting, Rohner 1, sw ne ne 31-2n-1e ..... * 2145
Montgomery County—
Carl Ewing, Waggoner 1, sw se sw 29-11w-5w 5 580
Ray Brown, Witt 1, nw se se 30-11n-5w ..... * 650
Monroe County—
Dr. Rose, Fee 1, ewl 15-1s-10w.... * 1185
Wabash County—
Findlay et al, Smith 1, nw nw sw 3-1n-1ew 60 2732
Longhorn Oil Co., Hell 13, sw ne sw sw 7-3s-13w 10 1251
Washington County—
Shell, Langel 3, ne ne se 22-1s-1w.. 58 1537
Gulf, Buhl 1, sw sw ne 23-1s-1w.. * 1584
Magnolia, Tieman 6, nw se sw sw 23-1s-1w 366 3142
Wayne County—
Pure, Gill 1, sw ne 5-1n-8e..... 76 3110
Powell et al 2, ce½ ne se 5-1n-8e 308 3140
Anderson 1, w½ nw ne 24-2n-7e. 56 3090
Behymer 2, cs½ se ne 33-2n-8e... 228 3105
Hubbell 4, ce½ nw nw 33-2n-8e.. * 3099
H. H. Weinert, Cornick 3, sec nw sw 4-2s-7e 480 3303
McPherson 9, ce½ sw ne 4-2s-7e 125 3259
Lieninger 2, ce½ nw ne 9-2s-7e.. 206 3276

[Continued on next page]

Summary of Drilling Operations in the United States, Week Ended September 21, 1940

	WELLS COMPLETED							*PERMITS FOR NEW WELLS				
	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total 1940	Total this Date 1939	This Week	Total this Month	Total 1940	Total this Date 1939	Year Total 1939
Alabama	1	.....	.....	1	.....	5	1	.....	.....	.....	.....	.....
Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Arkansas	4	3	.....	1	260	139	177	1	7	104	171	223
California	21	19	.....	2	9,068	830	785	21	56	773	765	1,174
Colorado	1	1	.....	.....	50	7	15	.....	.....	.....	.....	.....
Florida	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Georgia	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Illinois*	77	59	.....	18	12,119	2,920	2,691	99	364	3,389	.....	893
Indiana	12	8	1	3	1,048	344	159	.....	.....	.....	.....	.....
Kansas	43	31	3	9	45,456	1,468	995	37	119	1,488	1,096	1,583
Kentucky	5	4	.....	1	433	250	490	.....	.....	.....	.....	.....
Louisiana	40	28	4	8	6,067	1,229	780	56	99	1,170	978	1,449
Michigan	22	7	2	13	2,349	898	1,069	17	64	828	1,033	1,419
Mississippi	7	3	.....	4	1,768	142	11	.....	.....	.....	.....	.....
Missouri	.....	.....	.....	.....	.....	15	.....	.....	5	9	.....	.....
Montana	8	3	4	1	260	132	106	.....	.....	.....	.....	.....
Nebraska	2	.....	.....	2	.....	12	1	2	7	15	.....	.....
New Mexico*	8	7	.....	1	2,003	504	465	4	24	450	82	293
New York†	17	17	.....	.....	46	754	430	.....	.....	.....	.....	.....
North Dakota	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ohio	44	12	15	17	176	718	694	.....	.....	.....	.....	.....
Oklahoma	34	17	3	14	1,725	1,563	1,486	33	92	1,337	1,483	2,059
Pennsylvania	61	54	4	3	66	2,730	1,156	.....	.....	.....	.....	.....
South Dakota	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Tennessee	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	.....	.....
Texas	146	108	2	36	71,901	7,449	7,059	201	511	8,279	7,519	10,269
Utah	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
West Virginia	8	1	7	.....	5	413	392	.....	.....	294	417	718
Wyoming	10	7	1	2	3,148	114	104	.....	.....	.....	.....	.....
Total this week	571	389	46	136	157,948	22,648	19,054	471	1,348	18,137	13,544	20,080
Total last week	534	367	47	120	178,039	22,077	18,565	425	877	17,666	13,153	20,080
Total this year	22,648	16,503	1,277	4,868	8,084,980	.....	.....	.....	.....	.....	.....	.....

* This tabulation includes those states where weekly data are available; figures for Illinois date from October 15, 1939; New Mexico from August 1, 1939. Data for Kansas, Missouri, Nebraska and New Mexico are first reports of new wells, rather than actual permits.
† Includes water-input wells

United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth
White County—		
Jno. R. Less, Pollard 1, ne se se 29-3s-9e	43	3468
Cherry & Kidd, Gray 2, se se se 8-4s-14w	81	2709
Pure, Potter 3, sw sw nw 9-4s-14w	63	2700
Superior, Fitton 5, sw se ne 27-4s-14w	474	2906
Exchange & Ohio, Pearce 4, sw ne se 11-6s-9e	86	2276
Rudolph 10, ne nw sw 12-6s-9e	*	2302
Eason & Angle, Storms 11, nw sw se 14-6s-9e	100	2269
Eason, Storms 5, ne sw se 15-6s-9e	55	2258
Powell 2, sw nw ne 22-6s-9e	85	2267
Exchange, Angle-Storms 4, sw c ne ne 22-6s-9e	46	2263
Blackstock, Storms 1B, swc ne ne 23-6s-9e	133	2269
Wiser Oil, Hulett 1, sw sw se 23-6s-8e	1040	3162
Carter, Dagley 1, nw nw ne 11-7s-9e	65	1516
Sun Oil, Puntney 1, cw½ sw ne 11-4s-9e	*	3400

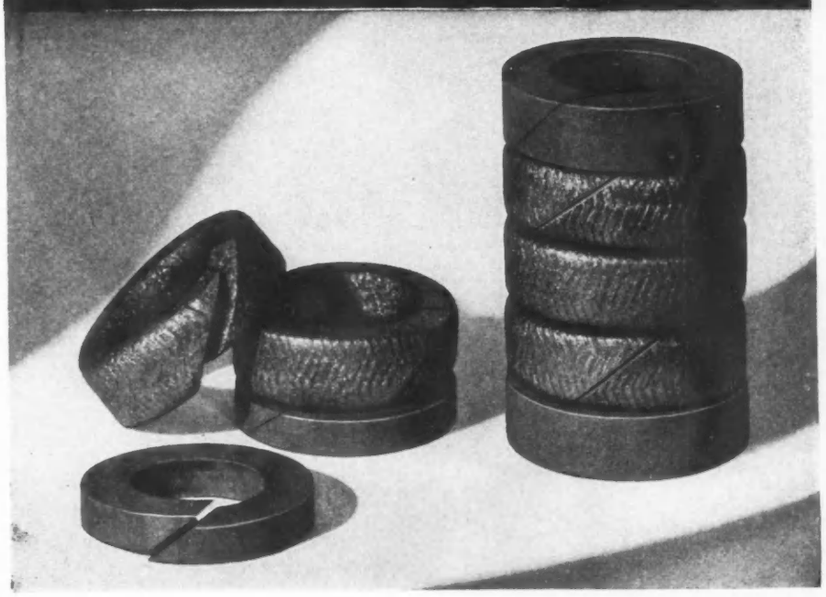
Indiana

Company, Well and Location	Init. Prod. Bbls.	Depth
Gibson County—		
L. B. Jackson et al, Sturgeon 1, se nw se 10-2s-9w	4	1640
Joe Bander, Cooper 37, nw nw sw 18-3s-13w	120	2509
Cooper 1, nec sw ne 13-3s-14w	175	2504
Hall Edwards Rec., Maier 7-C, se sw nw 13-3s-14w	300	2863
Cont'l Oil Co., Bozeman 11, ne sw nw 26-3s-14w	192	2959
Kleiderer 5, nw ne nw 35-3s-14w	100	2573
Ill Ind. Basin Corp., Boeglin 1, 10-4s-10w	*	2109
Posey County—		
Gulf, Meier 2, ne nw ne 7-6s-12w	¶0.58	685
Nelson Dev., Horstman 2, se ne ne 7-6s-12w	42	1145
Spencer County—		
Schnell Oil Co., Bratz 1, sec nw sw 3-7s-6w	*	1039
R. B. Creager, Strueh-Welburn 1, sw se ne 1-7s-12w	115	1758
Seitz et al, Seay 1, ne nw 5-8s-6w	*	975

Kansas

Company, Well and Location	Init. Prod. Bbls.	Depth
Barton County—		
Derby, Esfield 2, ne sw nw 29-16-11w	140	3336
Skelly, Esfield 2, cn½ se se ne 30-16-11w (OTD 3117)	1251	2877
Fees et al, Schreiber 1, cs½ ne sw 17-18-15w	¶35.0	3496
Champlin, Clawson 2, cn½ nw nw 17-20-11w	75	3342
Gulf, Kasselman 4, cn½ ne sw 23-20-11w	1800	3291
I. T. I. O., Bryant 3, cs½ nw se 23-20-11w	3000	3275
Butler County—		
McGinnis et al, Cundall 1, sec nw 12-24-4e	*	2625
Adair et al, Brandt 12, nw ne se 15-28-7e	343	2710
Simpson, Piper 2, se ne sw 17-29-4e	*	1902
Ellis County—		
Champlin, Hadley "B" 2, cs½ se ne 20-11-17w	*	3561
Winkler-Koch, Hadley 3, cs½ se ne 21-11-17w	3000	3371
Cities Service, Collahan "B" 1, sw nw nw 25-11-17w	2420	3600
Phillips, Peavey 6, cs½ ne se 13-11-18w	3000	3354
Hall, Smith 8, cw½ nw ne 14-12-16w (OTD 3101)	2683	3225
Gulf et al, Sanders 1, cn½ sw se 30-13-16w (OTD 3458)	3000	3465
Ellsworth County—		
Cities Service, Hagy 1, cw½ ne sw 16-16-10w	3000	3396
Skelly, Boldt, ce½ se sw 21-16-10w	*	3339
Atlantic et al, Matosh 1, cn½ ne se 34-16-10w	186	3293
Lario, Mehl 4, cn½ nw se 35-16-10w	3000	3294
Duwe & Farris et al, Williams 1, cn½ nw se 18-17-8w	*	3311
Derby et al, Phelen 1, cn½ ne se 2-17-10w	36	3284
Grant County—		
Panhandle Eastern, Joyce 1, sw sw ne 33-30-37w	¶22.5	2800
Greenwood County—		
Henderson, Schneider 2, nw ne sw sw 9-23-13e	20	1790
Huddleston et al, Pinnon 2, ne ne se ne 27-23-13e (OTD 2237)	5	1853
Miller, Hancock 1, nwc 18-27-11e	*	1948
Robinson et al, Roberts 1, nw ne se nw 17-28-11e	35	1230
Shewmaker et al, Pierce 1, ne ne se nw 17-28-11e	10	1228
Kingman County—		
Skelly, Interurban 4, sw nw nw 30-27-10w	487	3462
McPherson County—		
Broadwater, Heaton 1, ce½ se se 28-17-1w	*	3375
Northwestern Prod., Whittall 1-B, cw½ ne ne 29-19-1w	¶3.0	2950
Bennett et al, Wiles 2, nw nw se ne 25-19-2w	§	2978
Tulsa, Mattson 4, cn½ ne sw 19-20-5w	2901	3330
Phillips County—		
Cities Service, Ray 1, ne nw se 32-5-20w	2135	3603
Rooks County—		
Broadview, Livengood "A" 5, cn½ ne nw 11-9-16w	2356	3286
Aylward, Richards 1, cn½ nw sw 31-10-18w	*	3705
Russell County—		
Cities Service, Bender "B" 3, sw ne se 23-15-14w	848	3349
Stafford County—		
Champlin, Smith "B" 2, nw ne se se 17-21-11w	536	3407
I. T. I. O., Hitz 1, ce½ sw sw 35-21-12w	*	3708
Stanolind, Voight 1, ce½ nw sw 11-22-12w	161	3633
Hartnett 9, csl sw nw nw 13-24-11w (OTD 3781)	3000	3818
Shell, Bean 1, sec sw 21-23-12w	3000	3854
Sinclair-Prairie, Krey 10, cn½ ne ne 14-24-11w (OTD 3772½)	3000	3810
Woodson County—		
Aikman et al, Arnold 4, se sw ne 35-23-14e	20	1619

FOR SLUSH PUMPS DOING TOUGH JOBS



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GARLOCK

United States Well Completions—*Continued*

Kentucky

Company, Well and Location	Init. Prod. Bbls.	Depth
Daviess County—		
Ohio Oil, Coomes 3	151	1263
Stewart & Snyder, Ezell 3	240	1293
J. C. Ellis, Fee 4	*	1730
Ohio County—		
Pyramid, Wigginton 1	5	1122
Webster County—		
Iley Browning, Sellars 1	37	1400

South Louisiana

Company, Well and Location	Init. Prod. Bbls.	Depth
Anse La Butte—		
Phillips, Broussard 1	*	2914
Bateman Lake—		
Texas, Wax Bayou Co. 5	¶3.5	10,944
Bayou Bouillon—		
Superior, Rycade 1	*	7031
Rycade 2	*	3192
Bayou Pigeon—		
Plymouth, LeBlanc 1	576	8686
Charenton—		
St. Mary, Blanchard 7	132	1151
Horseshoe Bayou—		
Texas, St. Mary Ld. Co.	456	10,887
Golden Meadows—		
O'Dwyer & Bering, LaFourche Realty 6	192	5175
Berkshire, Authemont 1	435	10,450
Texas, LL&E 17	184	6658
Tippett, Curol 1	170	5480
Grand Bay—		
Gulf, GPLD 9-A	312	8110
LaFitte—		
Texas, Marrero 7	*	5619
Lake Long—		
Fohs, State 12	275	9352
Neale—		
Atlantic, Spiers 2	454	8438
Whitmer 2	462	8427
Martex, Musser-Davis 1	*	8828
New Iberia—		
Mid-States, Schwing 1	*	8955
White Castle—		
Shell, Wilberts 17	185	6600
Woodlawn—		
Union Sulphur, Calcasieu Bank 6	482	9755
Johnson 4	240	8118
Welch—		
Cheeseman & Cranston, Bourgeouis 1	96	5935
Jefferson Davis Parish—		
Union Sulphur, Calcasieu Bank 1-A, China	33	9525
Terrebonne Parish—		
Stanolind, State 1, Bay Junop	*	11,100

North Louisiana

Company, Well and Location	Init. Prod. Bbls.	Depth
Bienville Parish (Bisteneau)—		
Union Pro. Co., Tooke Unit 1, 10-16n-10w	¶60.0	5346
Bossier Parish (Sligo)—		
Triangle Dr. Co., Roy A-4, 18-17n-11w	175	3146
Caddo Parish (Pine Island)—		
Lloyd A. Farr, Stiles 7, 17-21n-16w	20	1028
James E. Kemp, Caldwell 1, 18-21n-15w	10	1780
W. A. Brown, Files 1, 32-21n-15w	100	1555
C. L. Oblinger, Land 1, 3-20n-16w	*	1650
Magnolia Pet. Co., Doan-Thigpen 25, 6-20n-15w	50	1505
Claiborne Parish (Sugar Creek)—		
Haynes B. Ownby et al, Ozley 2, 33-20n-5w	195	5786
La Salle Parish (Wildcat)—		
Petersen Pet. Corp., Tremont Lbr. Co. 1, 25-9n-2e	¶10.0	4020
La Salle Parish (Olla)—		
Arkansas Fuel Oil Co., Hopkins 1, 24-10n-2e	235	2215
Hopkins A-1, 12-10n-2e	120	2217
Placid Oil Co., La. Central Lbr. Co. 32, 25-10n-2e	115	2425
La. Central Lbr. Co. 34, 25-10n-2e	125	2410
La. Central Lbr. Co. 28, 30-10n-3e	118	2415
La Central Lbr. Co. 43, 7-10n-3e	120	2383
Union Parish (Monroe)—		
N. & W. Corp., Thompson et al 2, 29-21n-3e	¶1.0	2200

Michigan

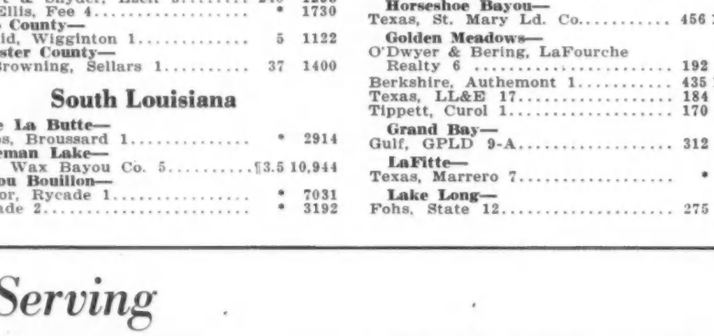
Company, Well and Location	Init. Prod. Bbls.	Depth
Allegan County—		
Fortney Oil Co., Poll 1 ne nw se 16-3n-14w	*	1518
W. L. McClanahan, Busscher 1, sw sw ne 16-4n-14w	600	1499
Howard E. Fowler, Kempker 1, ne ne sw 9-3n-14w	*	1596
Arenac County—		
Pure Oil, State A 1, se se sw 15-19n-3e	*	3026
American Dr. Co., Ames 1, sw nw nw 23-19n-3e	*	3040
Don Rayburn, Collins 1, se nw ne 22-19n-3e	1400	2874
Cass County—		
Tamblyn Dev. Co., Woolverton 1, se ne ne 22-8s-15w	13	668
Clare County—		
Sun Oil, Oxidermo 1, n½ ne nw 28-19n-3w	*	1596
Gulf, Streib 1, ce½ se sw 11-17n-5w	*	4030
Isabella County—		
Merrill & Dean, Gatehouse 1, nw sw ne 3-14n-6w	15	3611
Kent County—		
West Mich. Consumer, Burgess 2, se se nw 32-7n-12w	¶1.0	1160
Smith Pet. Co., Zeff 4, nw sw sw 33-7n-12w	300	1785
Wolverine Nat. G. Co., Johnson 6, se nw nw 4-6n-12w	*	2754
Temple & Linegar, Whalen 1, sw se nw 14-6n-12w	*	1914
Lenawee County—		
Voorhees Dr. Co., Gove 1, ne sw sw 8-5s-4e	*	4060
Consolidated Developers, LaVoy 1, se ne nw 25-6s-5e	*	2492
Montcalm County—		
Belvidere Oil Co., Curtis 1, se nw se 16-12n-6w	*	1295
Muskegon County—		
A. S. Cochran, Durham 5, nw se sw 15-10n-16w	11	1710
Osceola County—		
Taggart Brothers Co., Richards 40, cne 25-20n-7w	¶17.0	1382
Chapman Oil Co., McNeilly 1, ce½ w nw 33-17n-7w	*	3873
Ottawa County—		
Fisher-McCall, Inc., Van Single 2, ne nw nw 2-6n-13w	*	1950
Welsh Oil Co., Root 1, sw se se 15-7n-13w	10	1864

Missouri

Company, Well and Location	Init. Prod. Bbls.	Depth
DeKalb County—		
Lawhon et al, Gottschall 1, cse se 18-59n-32w	*	2422

Serving

TEXAS *and* **LOUISIANA**



Drilling below 10,000 feet in Bruni 8, first well in Webb County to be carried to that level and deepest operation in the Mirando district of South Texas. The well, in the Bruni field, is drilling in the Wilcox formation.

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SAN ANTONIO

United States Well Completions—*Continued*

Mississippi

Company, Well and Location	Init. Prod. Bbls.	Depth
Jefferson Davis County (Wildcat)—		
Exchange Oil Co., Newman Lbr. Co. 1, 36-7n-19w	*	5025
Montgomery County (Wildcat)—		
Gulf, Parker 1, 23-19n-7e	*	5303
Tallahatchie County (Wildcat)—		
Lewis & LaRue, Westerbrook 1, 18-23n-2w	*	4300
Yazoo County (Wildcat)—		
Petroleum Expl. Co., Vandevere 1, 25-13n-1w	*	6500
Yazoo County (Tinsley Dome)—		
Slick-Urschel Oil Co., Slick 9, 2-10n-3w	500	4833
Union Prod. Co., Robinette 1, 19-10n-2w	618	4855
Harris 1, 19-10n-2w	650	4878

New Mexico

Company, Well and Location	Init. Prod. Bbls.	Depth
Eddy County—		
Mac T. Anderson et al, Root 5, cse se 1-17s-29e, (pb to 2750 ft)	65	3435
C. L. East et al, Root 2, c sw se 12-17s-29e	91	2613
Fulton & Faulkner, Root 1, c sw ne 12-17s-29e	107	2665
Lea County (Arrowhead)—		
Continental Oil Co., State 10-J-2, ce¼ sw nw 2-22s-36e	120	3830
Lea County (West Eunice)—		
Wilson Oil Co., State-Shell 6, csw nw 18-21s-35e	*	3895
Lea County (Maljamar)—		
Barney Cockburn et al, Baish 21-B, csw ne 28-17s-32e	400	3806
Lea County (Skelly)—		
Skelly Oil, King 2, cne nw 4-23s-37e	240	3706
Lea County (Vacuum)—		
Texas Co., State R-9, cnw sw 1-18s-34e	980	4710

New York

Company, Well and Location	Init. Prod. Bbls.	Depth
Allegany County—		
Sandy Oil Co., Welch farm, Bolivar	4	1473
R. B. Moore No. 6, Daniels farm, Bolivar	7	1431
Sawyer & Williams, Torrence farm, Bolivar	5	1276
Bradley Prod. Corp., Monder farm, Alma	4	1381
Dick Oil Co., Cameron farm, Bolivar	7	1460
H. W. Patterson, Black farm, Scio	4	749
Fulmer Valley Oil Co., Jordan farm, Andover	6	1264
Messer Oil Corp., Koehler farm, Genesee	5	1372
Bradley Prod. Corp., Coats farm, Wirt	4	1371
Water Intake Wells—		
D. V. McCarthy, Holcomb farm, Bolivar	...	1246
Wm. Taylor Est., Breckenridge farm, Alma	...	1330
Bradley Prod Corp., Monder farm, Alma	...	1335
Dick Oil Co., Cameron farm, Bolivar	...	1433
Homestead Oil Co., Homestead farm, Bolivar	...	1426
L. H. Thornton et al, Brown farm, Alma	...	1326
H. W. Patterson, Fuller farm, Scio	...	749
Jacob Trinkle Oil Corp., Hill farm, Genesee	...	1389

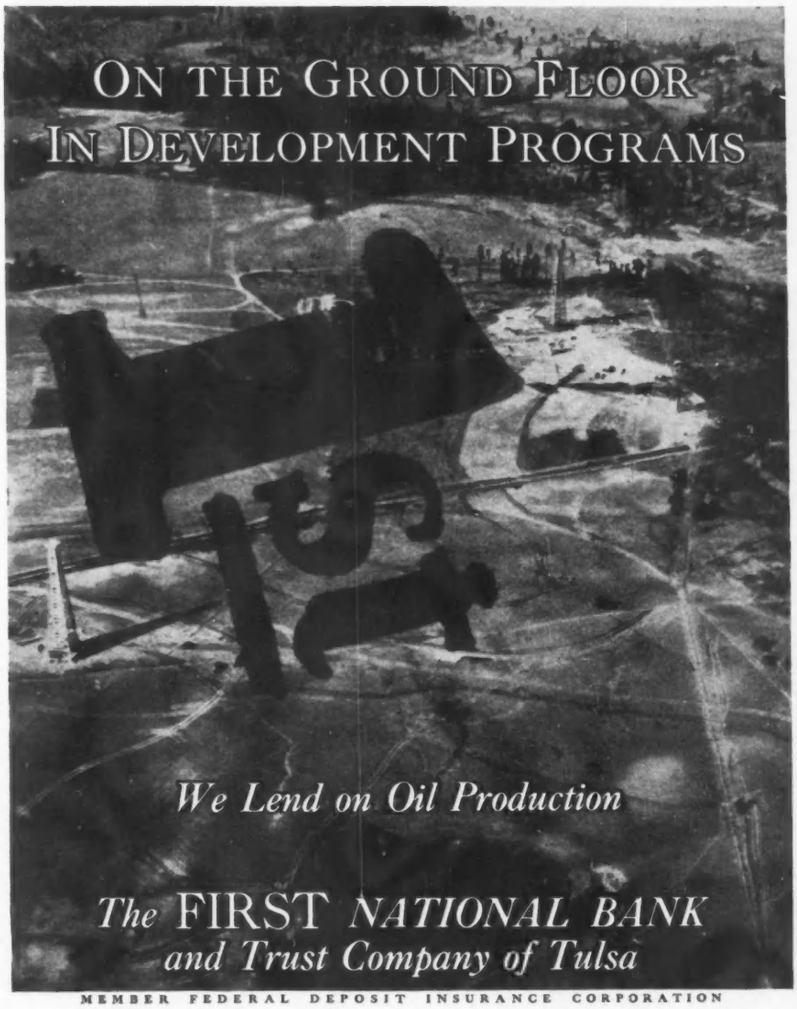
Ohio

Company, Well and Location	Init. Prod. Bbls.	Depth
Athens County—		
Gifford, Parmiter 3	5	423
Ohio Fuel Gas, Wilson 1	¶0.7	1276
A. D. Townsend, Douglas 3	¶0.09	1486
Nuzum et al, Swisher 1	*	1296
Coshocton County—		
Willey, McKee 1	¶0.4	3161
Guernsey County—		
Wharton, Warden 1	¶0.02	1161
Hocking County—		
Walsmith, Grummond 1	*	3537
Preston Oil Co., Sunday Creek Coal 186	*	3454
Holmes County—		
Ohio Fuel Gas, Moore 1	*	3230
J. C. Moore, Kendall 1	*	820
Jefferson County—		
R. J. Braden, Calvary Cemetery 17	5	1617
Knox County—		
Perkins, Spearman 1	¶.08	2645
R. B. Vaughn, Kirk 1	*	2720
Lawrence County—		
Kachelmacher, Mineral Prod. Co. 1	*	3149
Licking County—		
Copperhead O. & G. Co., Varner 2	10	585
Stricker, Patton 13	8	645
Ohio Fuel Gas, Wilkins 1	¶1.6	2559
Murphy, Van Voorhis 1	¶.43	2373
Moore, Hartman 1	*	2581
Lacknette, DiGiandomenico 1	*	2486
Lorain County—		
Forest Oil Co., Wise 9	2	188
Wise 11	*	162
Wise 12	*	188
Wise 10	*	206
Ohio Fuel Gas, Durkee 1	¶0.74	2546
Medina County—		
Marine Trust Co., Ross A-10	5	434
Ross A-11	5	373
Ross A-12	5	384
Ross A-14	5	425
Ross O-12	I	442
Preston Oil Co., Packard 6	1	501
Monroe County—		
G. W. Burkhardt, Beardmore 3	¶0.16	1440
Muskingum County—		
Atha Oil Co., Hock 1	*	4288
Noble County—		
Yoker Valley, Eagon 2	¶0.2	1456
Watson, Leisure 1	*	1675
Perry County—		
Preston Oil Co., Beacham 4	90	3310
B. G. Davis et al, Beacham 4	35	3316
Stark County—		
East Ohio, Shoemaker 2	¶0.15	4642
Nat. G. Co. of W. Va., Conservancy 1	¶0.05	4621
Lyons, Rohr 1	*	4241
Tuscarawas County—		
Benedum-Trees, Leggett 1	*	5203
Vinton County—		
Kelch, Pierce 1	¶0.03	1816
Washington County—		
McTaggart, Male 1	¶0.4	1327
Campbell, Liebrand 4	¶0.28	1518

"I" indicates water input well.

Oklahoma

Company, Well and Location	Init. Prod. Bbls.	Depth
Caddo County—		
Stephens, Plummer 1, ne nw sw 34-6n-10w	45	3402
Carter County—		
Magnolia, Love-Johnson 5, ne ne se ne 32-1s-3w	*	4307
Cox & Hamon, Herrel 1, ne ne se sw 20-4s-2w	200	2038
Gibson et al, Voorhees 3, nw se nw ne 20-4s-2w	216	2204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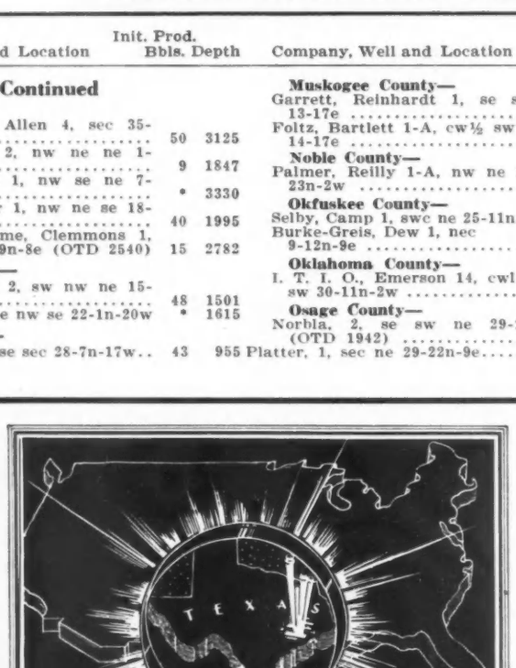
MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION

Company, Well and Location	Init. Prod. Bbls.	Depth
OKLAHOMA—Continued		
Creek County—		
Chapman et al, Allen 4, sec 35-15n-10e	50	3125
Tilley, Hayword 2, nw ne ne 1-17n-9e	9	1847
Stone Hill, Vann 1, nw se ne 7-17n-9e	*	3330
Hollifield, Kremer 1, nw ne se 18-18n-10e	40	1995
Sand Springs Home, Clemmons 1, nw sw nw 19-19n-8e (OTD 2540)	15	2782
Jackson County—		
Altus Pet., Maud 2, sw nw ne 15-1n-20w	48	1501
Lynch, Rawls 1, se nw se 22-1n-20w	*	1615
Kiowa County—		
Lewis, Wooten 1, se sec 28-7n-17w	43	955
Muskogee County—		
Garrett, Reinhardt 1, se sec 15-13-17e	*	2232
Foltz, Bartlett 1-A, cw½ sw ne 16-14-17e	12	1895
Noble County—		
Palmer, Reilly 1-A, nw ne nw 27-23n-2w	*	4608
Okfuskee County—		
Selby, Camp 1, swc ne 25-11n-8e	*	3486
Burke-Greis, Dew 1, nec 9-12n-9e	¶12.0 & 50	4015
Oklahoma County—		
I. T. I. O., Emerson 14, cwl sw ne sw 30-11n-2w	¶1.2	4091
Osage County—		
Norbla, 2, se sw ne 29-20n-11e (OTD 1942)	*	1867
Platter, 1, sec ne 29-22n-9e	130	1811
Continental, Goad 1, swc ne 27-24n-7e	*	2656
Tidewater, 1, cwl sw se ne 26-26n-4e	*	3320
Payne County—		
Mid-Continent et al, Whitely 1, nw sw se 18-18n-2e (OTD 4973)	swd	5139
Jackson, Lovett 1-A, sw nw 2-18n-6e	¶0.8	1098
Elson et al, Murphy 1, sec nw 20-19n-2e	576	4720
Pontotoc County—		
Hall, Troup et al, Summers 3, ne sw se 26-5n-4e	180	3637
Paine et al, Newbert 1-A, se sw ne 31-5n-4e	*	2328
Patterson, Roberts 1, sw ne ne 36-5n-4e	60	2640
Senora, Burke 2, ne nw ne 36-5n-4e	*	2555
Pottawatomie County—		
Hall et al, Walker 1, se sw sw 4-5n-5e	*	695
Seminole County—		
Mid-Continent, Ferguson 1, ne sw sw 18-7n-8e	30	3471
Stephens County—		
Pace, Pace 20, ne sw ne nw 28-2s-7w	20	1683
Tulsa County—		
Reynolds et al, Tingley 2, nw nec 23-17n-12e	*	1396



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Pennsylvania

Company, Well and Location	Init. Prod. Bbls.	Depth
BRADFORD DISTRICT		
Tapp, Gallets & Buffington, Trs. Fee	3	....
Bug Oil Co., Rehler	½	....
J. P. Kervin, Baker	1	....
Bradford Tr. Co., 28 wells	28	....
Forest Oil Corp.	1	....
Forest Pet. Corp.	1	....
Niagara Oil Corp.	3	....
Lane No. 1 et al, Bing 371	2	....
Daly & Healy, Bing 500	1	....
Pine Run Oil Co., Bing 130-1-2-3-4-6	4	....
C. A. Duke estate, D. C. & B.	5	....
Messer Oil Corp., Loop	1	....
Mix Creek Oil Co., Fee	1	....
Water Intake Wells—		
Forest Oil Corp., 2 wells	...	....
Forest Pet. Corp., 2 wells	...	....
Niagara Oil Corp., 3 wells	...	....
Pine Run Oil Co., Bing 130-1-2-3-4-6	...	....
MIDDLE DISTRICT		
Brundred Oil Corp., Tract 81	1	....
Overland O. & G. Co., McKissick	¶	....
Fryburg Motor Co., Davis	1	....
W. D. & F. T. Barry et al, Given & Barry	5	....
J. B. Perry, Sherick	4	....
BUTLER-ARMSTRONG DISTRICT		
D. L. Baird, Hoover	2	....
Rankin & Jordan, Rankin	1	....
NEW YORK-PENN GAS FIELD		
Clancy, et al, Hayes	¶	....
Greene County—		
H. D. Freeland et al, Headley 1	¶ 0.6	2165
Greene County Gas Co., Pratt 1	¶0.07	2995
Washington County—		
H. V. Sprowes et al, Vankirk 1	*	2760
Westmoreland County—		
Peoples Nat. G. Co., Idings 1	*	3864
Young 2	*	4377

East Texas

Company, Well and Location	Init. Prod. Bbls.	Depth
Kilgore Area—		
Rudco O&G Co., Morse 5 (5½-ac)	4200	3625
Sinclair Prairie, Cole 60 (666.28-ac)	1500	3518
Sun Oil, Walker 6 (271.46-ac)	960	3712
Longview Area—		
Atlantic Ref. Co., Moore 82 (434.16-ac)	5000	3617
Deep Rock, Jones 26 (61.12-ac)	4500	3582
Magnolia, Adkins 19 (100-ac)	1500	3689
Marine Prod. Co., York 3 (20.7-ac)	5000	3560
N. P. Powell et al, McKinley 1 (42.26-ac)	750	3594
Franklin County (Talco)—		
Humble, J. C. Young 2 (263-ac)	130	4290
Limestone County (Mexia Shallow)—		
J. G. Phillips et al, Reid 1	*	1098
Limestone County (Wildcat)—		
Frank Bryant & Farrell Dr. Co., Bevill 1	†	1980
Shelby County (Wildcat)—		
Superior Oil, Pickering Lbr. Co. 3, Thos. Haley sur	*	7170

Texas Panhandle

Company, Well and Location	Init. Prod. Bbls.	Depth
Carson County—		
Danciger O&R, Moore-Langdon 7	135	3090
Magnolia, Fee (Tr. 244) 88	51	3126
Texoma Nat. G. Co., Schafer 8-S	¶22.3	2620
Gray County—		
Bell O&G Co., Morse 10, Tr. 2	150	2627
Magnolia, Fee (Tr. 227) 34	346	2858
Hutchinson County—		
J. M. Huber Corp., Bryan 1	195	3210
Texas Co., Pond 33	612	3020
Garner 12-A	394	3050
Lewis 37	169	3030
Wheeler County—		
Anisman et al, Jackson 4	122	2207
Budco Oil Co., Walker 2	43	2512

United States Well Completions—*Continued*

North Texas

Company, Well and Location	Init. Prod. Bbls.	Depth
Archer County (Hull-Silk Deep)—		
Ed Peterson & McCarty, Wilson 39-B	1536	4650
Archer County (Hull-Silk)—		
L. T. Burns, Tr., Wilson-McCrory 1	1108	3904
Dillard-White & Duncan, Nichols 10	1224	4419
Magnolia, Rutty 13-B	896	3791
Helmerich & Payne, Moss 2	1560	4286
Southern Pet. Explo. Co., White 5-C	432	4394
White 6-C	552	3896
Texas Co., Wilson 42-A	47	3898
Archer County—		
L. T. Burns et al, Blewitt-1st Nat'l Bank 7	9	1479
Panhandle Ref. Co., Green 10-C	71	1139
Archer County (Wildcat)—		
British-American O.P. Co., Wilson 1-E	*	4851
Baylor County (Rendham)—		
Hall-Jordan Oil Co., Green 2	33	3062
Clay County—		
Apache Oil Co., Henderson 4	10	1136
Johnson & Kouri, Taylor 2	*	295
Ted Norwood et al, Taylor 10	*	1355
Clay County (Shell-Henderson)—		
Shell Oil Co., Coburn 1 (pb to 3212 ft	1148	3627
Cooke County (Walnut Bend)—		
Magnolia, Ramsey 10	324	4713
Cooke County (Wildcat)—		
Texas Co., Cooke 1	*	1486
Jack County (Wildcat)—		
Harper Pet. Corp., Kinder 1	*	2133
Jack County—		
Gwynn & Overby, Epperson 2	395	3190
E. B. Evans et al, Jackson 1	*	470
Montague County—		
J. M. Hawley et al, Bouldin 1	23	812
Wichita County (Wildcat)—		
W. D. Wiley Jr. et al, Long 1	*	1400
Wichita County (K-M-A)—		
S. H. Fagadau et al, Barnes 1-D	896	4025
W. H. Hammon et al, Fee 5	680	4074
Hammon, Hanlon & Buchanan, Fassett-Tuttle 25	680	3972
Fassett-Tuttle 26	688	3967
W. B. Omohundro et al, Love 6	648	4070
Southport Pet. Co., Big Wichita River 19-A	352	3811
Wichita County—		
Mogren & Anderson, Mertens 15	*	990
E. P. Waggoner et al, Waggoner Est. 6-C (pb to 1971 ft)	10	2182
Wilbarger County—		
G. T. Davis et al, Waggoner Est. 5	9	519
Young County (Wildcats)—		
Trentman Co., Nall 1	*	4589
Carl Wainwright et al, Rogers 1	49	898
Young County—		
Chas. B. King et al, Bloodworth 4	8	552

Texas Gulf Coast

Company, Well and Location	Init. Prod. Bbls.	Depth
Bay City—		
Skelly, Rugeley 6	311	8506
Clear Lake—		
Humble, West C-50	*	5983
Hardin—		
Humble, Cessna 2	72	7628
Joe's Lake—		
Republic, Hurd 42	408	7697
League City—		
Phillips, Lobit 8	245	8694
Lovell's Lake—		
Humble, Jefferson Ld. 16	143	7780
Magnet—		
Humble, Cockburn 24	72	5542
Manvel—		
Texas, Davis 1	*	6018
Old Ocean—		
Stanolind, Giles 3	186	10,970
South China—		
Titanic, Fontenot 1-B	170	7887
South Cotton Lake—		
Humble, Lawrence 6	72	6514
Sour Lake—		
Baker, Glass 1	284	1166
West Beaumont—		
Stanolind, Keith-Dowlen 12	443	5403
Withers—		
Texas, Pierce C-77	120	5383
Pierce C-78	115	5379
Harris County—		
Cockburn, Burkett 1, Dyersdale	455	4950
Tyler County—		
Franklin & Tidemann, Thos. & Schleicher 1, Colmesneil	*	4660

West Texas

Company, Well and Location	Init. Prod. Bbls.	Depth
Crane County (Ella Waddell)—		
Gulf, Waddell 33	*	3737
Crane County (Sand Hills Deep)—		
American Liberty Oil Co., Tubb 10-a	2874	5790
Crockett County (Wildcat)—		
Moore Explo. Co.-Olson Oil Co., Halff 1	*	1503
Dawson County (Wildcat)—		
Sloan & Zook, Sypert 1	*	4072
Ector County (Foster)—		
Atlantic Ref. Co., Johnson 1-J	1437	4164
Humble, Henderson 5-B	616	4200
Ector County (Goldsmith)—		
Phillips Pet-Pure Oil, Cowden 103	1215	4151
Gaines County (Seminole)—		
Atlantic Ref. Co., Riley 3-D	586	5324
Magnolia-Atlantic, H. & J. 1-217	562	5325
H. & J. 5-221	486	5238
Gaines County (Wasson)—		
Amon G. Carter et al, Moore 9-45	1529	5035
Wasson 3-C	1060	5009
Mitchell County (Northwest)—		
B.R.&S. Oil Co., Berry 1	*	1801
C. L. Echols et al, Crawford-Shell 1	352	1745
Pecos County (Taylor-Link)—		
Aha Oil Corp., University-Landreth 4-F	101	1673
Runnels County (Beddo)—		
Art Tucker-John Castor, Fowler 1	*	2325
Scurry County (Sharon)—		
Pearson-Sibert Oil Co., Bishop 1	265	2435
Upton County (Wildcat)—		
B. H. Kean et al, Taylor 1	*	2552
Ward County—		
Atlantic Ref. Co., University-Wickett 2	*	3277
Gulf Oil, O'Brien 143	519	2776
Winkler County (Kermit)—		
Krupp-Flaherty Oil Corp., Brown-Amerada 1	50	3151
Yoakum County (Wasson)—		
Argo Oil Corp., Comer 7-A	1212	5210
Dunigan Bros. & Brahaney, Shipley 1	856	5255
Gulf, Moore 3	508	5085
Oil Dev. Co., Willard 4-765	1346	5226
Shell, Baumgart 13-D	1481	5157
Kendrick 3	1756	5123

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30 Years Experience

United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth
West Central Texas		
Brown County—		
G. Greynolds et al, Leatherwood 5	5	1158
Callahan County—		
Bennett & Little, Clinton 2	¶2.25	523
Callahan County (Wildcat)—		
West Bros. et al, Evans 1	•	904
Eastland County—		
D. Tomlinson et al, Poe 1	•	895
Jones County—		
Condor Pet. Co., Sayles 31	138	1936
Humble, Irwin 8	211	2382
Palo Pinto County—		
Palo Pinto O&G Corp., Mt. M. Coal Co. 1	¶1.1	2976
Parker County (Wildcat)—		
Chas. F. Carter et al, Yeager 1	•	765
Shackelford County (Wildcat)—		
J. B. Baker et al, Nail 1-47	•	1144
Shackelford County—		
Roeser-Pendleton, Cook 3-A-116	28	1593
A. P. Schkade et al, Fee 2	•	775
Ungren-Frazier & Beams Dr. Co., Jackson 4	•	1365
Stephens County—		
A. A. Horwitz & Oldom, Dance 3	375	3696
Taylor County (Wildcat)—		
E. A. Engel et al, Bowles 1	•	1955
South Texas		
CORPUS CHRISTI DISTRICT		
Bee County—		
W. Earl Rowe and W. C. McBride, Inc., Meyer 1 (WC) H. Williams sur	•	5110
Colorado County—		
Shell, Plow Realty 2 (Sheridan)	750	8157
Jackson County—		
Darby Pet. Co., Turner 1, (West Ranch)	1250	5768
Humble, L. Ranch Co. 3-A (Lolita)	1150	5959
Magnolia, Four Way Ranch 2 (Lolita)	650	6399
West 100-A (West Ranch)	1200	5563
Skelly Oil, Ward 3 (Lolita)	700	5931
Jim Wells County—		
Anderson - Prichard Oil Corp., Mueller et al 5 (Wade City) opens Alice sd prod.	550	4928
Arkansas Fuel Oil Co., Sachtleben 4 (Wade City)	•	4963
Atlantic Ref. Co., Blashke 1-C (Orange Grove)	375	5109
H. H. Howell, Schrade 4 (Orange Grove)	800	5152
H. R. Smith and H. J. Mosser, Schumacher 1 (WC) G. J. Reynolds sur, new field	175	5002
Live Oak County—		
C. G. Newton and 101 Oil Co., Benham Hrs 1 (WC) L. M. Hitchcock sur	•	2025
Nueces County—		
Humble, Flour Bluff-State 2-D (East Flour Bluff)	500	6803
Shield Oil Co., Lewis 1, (Shield)	500	6617
Wellington Oil Co. of Del., Howze 1, (WC) sec 56, connects Minnie Bock and Clara Driscoll flds	80	3826
Refugio County—		
Fred W. Shield, Rooke 1 (LaRosa)	350	8015
San Patricio County—		
Norsworthy Prod. Co., McDaniel Est. 1 (WC) blk 9, lot 2	•	6250
Texon Royalty Co., Mullen 1 (WC) blk 1, sec 27	•	4860
Victoria County—		
Texas Gulf Prod. Co., Linnville 2 (Bloomington)	¶1.5 & 5	6407
Transwestern Oil Corp., McFaddin 16-E (McFaddin)	175	5868
LAREDO DISTRICT		
Duval County—		
Adelon Oil Corp., Martin C-5 (Casa Blanca)	•	1187
Government Wells Oil Corp., Lundell 43 (Lundell)	38	1532
E. C. Hubble Dr. Co., Farias 1 (WC) sur 132	•	2454
Magnolia, D.C.R.C. 12 (132) (Cedro Hill)	25	1468
Jim Hogg County—		
Achning & Daubert, Allen 4 (Manila)	150	2617
Bridwell Employees Oil Co., Woods & Dannelly 1 (Manila)	•	2630
Humble, King-Colorado 19 (Colorado)	250	2989
V. F. Neuhaus, Martinez (Trevino) G-1 (Colorado)	200	2947
Sun Oil, Thaxton 8 (Colorado)	175	2972
Texas Co., Armstrong et al 1 (WC) sec 90, A. Villa sur, new sd, extends Gutierrez fld 1 mi s	¶5.0 & 15	3691
McMullen County—		
McCormick-King Prod. Co., Shiner Ranch 1 (WC) sec 72	•	2506
Starr County—		
W. R. Davis, Inc., Davenport 5-A (Rincon)	400	4280
Sun Oil, Speer 4-B (Sun)	75	5027
Webb County—		
Glenda Oil Co., Bruni Est. 1-B (WC) blk 7	•	1100
Pitkin and Goldston Oil Co., Bruni Est. 3 (Glen)	38	2195
Transwestern Oil Co., Bruni Est. 8 (Glen)	98	2169
Bruni Est. 9 (Glen)	150	2159
Marvin Walker and Bob Rose, Yeager-Strohman 1 (WC) sh 5	•	2253
Zapata County—		
Jose Martinez & J. M. Salinas, Bruni Est. 1 (WC) blk 43	•	921
SAN ANTONIO DISTRICT		
Bastrop County—		
Marts & Beaven, Reyes 6-A (Cedar Creek)	25	1715
Bexar County—		
John J. Durst, Conaway 2 (WC) sur 54	•	556
Joe A. Noake, Medina Irrigated Farms 1 (WC) blk 75, lot 4, new pool	¶1.0	1231
Philtop O. & G. Co., Patton 8 (Alta Vista)	•	365

A.I.M.E. 1939 Development Treatise Now Available

The American Institute of Mining and Metallurgical Engineers has published Volume 136 of the Transactions of the Institute. The 597 page volume, fifteenth of a series on Petroleum Development and Technology compiled by the Institute's Petroleum Division, contains the technical and economic papers presented before the division at Galveston, Texas, October 5-7, 1939; Los Angeles, October 19-20, 1939, and New York, February 12-15, 1940.

Five sections take up production engineering; engineering research; petroleum economics; production, domestic and foreign, and refining.

The section on production engineering includes discussions of gravel packing, multistage stablization of crude, principles of well spacing, radial filtration of drilling muds, and detection of radioactive cement in cased wells. The section on engineering research presents nine articles treating advanced research in the fields of reservoir engineering, phase behavior of hydrocarbons, and drilling muds. The section on petroleum economics includes four articles on the economics of production, refining and marketing, with a discussion on world consumption of petroleum and related products.

The production section reviews 1939 development in 29 productive areas of the United States and 15 foreign countries, constituting a resume of activity of the past year. Much of the information is in tabular form, giving operation and development data on old fields as well as discoveries. Foreign developments are handled in the same manner insofar as possible, with a wealth of incidental information. The price of the volume is $5.00. Copies may be obtained from the Institute, 29 West 39 Street, New York.

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MEN IN THE INDUSTRY'S NEWS

JOHN A. BROWN, president of Socony-Vacuum Oil Company, last week declared that the oil industry is one vital factor in the defense program about which Americans should have no worry.

"The United States accounts for two-thirds of the world's oil production and has two-thirds of the world's refining capacity," Brown told stockholders.

"According to trade papers, the Army, Navy and Coast Guard have been purchasing less than 5000 barrels of gasoline daily, but the industry is manufacturing about 1,650,000 barrels of gasoline daily. Consumption of fuel oils by the armed forces has been averaging about 30,000 barrels daily, but the industry produces 1,325,000 barrels of fuel oils daily.

"An industry that has the every-day job of providing 33,000,000 cars, trucks, tractors and buses with lubricants and gasoline should be able to handle all military requirements, even on the basis of war-time activity, without much difficulty.

"That is true even for such specialized products as aviation gasoline. There is not a large commercial market for 100-octane gasoline, and the industry's present productive capacity probably exceeds current peace-time requirements for our own military and commercial purposes. What the demand may be with full preparedness cannot be definitely predicted, and possibly some additional plant capacity may be necessary."

J. C. B. van den BERG, equipment engineer for De Bataafsche Petroleum Maatschappij, has arrived in Houston where he will act as liaison engineer for the company with respect to new developments in drilling and production equipment and methods. He will maintain his headquarters in the Shell Building.

FRANK A. WATTS, purchasing agent for Humble Oil & Refining Company, and O. D. Story, purchasing agent for Shell Oil Company, have been named co-chairmen of the big gifts division in the Houston Community Chest campaign.

W. K. MELLON, vice president of Petrolite Corporation, is transferring his headquarters from the company's Los Angeles office to the Gulf Coast division office at Houston from where he will supervise all operations of Petroleum Rectifying Company of California in the Eastern and Gulf Coast divisions.

He first became nected with Petroleum Retifying Company of California in 1919, opening the Houston branch and pioneering in early dehydration work. He transferred to Los Angles in 1929 as California district manager, and in 1937 was elected vice president of the company.

W. B. HEROY, of Pilgrim Exploration Company, told the Houston Geological Society last week that Germany has enough oil to carry on the war indefinitely, but that Italy is short and that her fleet is practically immobilized for lack of bunker fuel.

P. O. TETER, tender representative of Empire Pipe Line Company in the East Texas field, has been appointed acting superintendent following the resignation of N. G. Moore, who has been engaged as general superintendent of the Pan American Pipe Line Company with headquarters at Houston.

BUHL BOGGESS, 58, driller and in recent years field superintendent for the William Dunning Estate's West Texas properties, died September 16 at Odessa, Texas. He was a native of Fairview, West Virginia, and worked as a driller in every important oil producing state and Mexico.

BRUCE BARKIS, partner in B & W, Inc., has opened a Gulf Coast headquarters at 302 Merchants & Manufacturers Building, Houston. The firm, of which Kenneth Wright is the other partner, distributes wall cleaning guides for use in well cementing, and other well-completion specialties.

L. H. ATWELL, comptroller for Humble Oil & Refining Company, retired last week after 21 years' service with the company. He was succeeded by Gay Carroll, while J. K. Vaughan was named assistant comptroller.

DR. D. B. BOW, Bartlesville, Oklahoma, assistant production manager for Indian Territory Illuminating Oil Company, accompanied by Mel W. Stirtz, chief geological engineer; and Frank F. Finney, who has charge of partnership operations, made an inspection tour of the company's West Texas properties the past week.

ERNEST B. WILSON, who has been associated with Stanley Gill, Houston consulting engineer, for the past several years, has joined Hogg Oil Company as chief geologist.

ROSS BREWER, manager of Texas and New Mexico operations of Texas Consolidated Oil Company, has transferred headquarters from Midland to San Angelo, Texas.

BERNARD H. LASKY, petroleum engineer and geologist, has returned to his Houston office after an extended trip to California.

ALVIN RICHARDS, counsel for the southwest division of The Pure Oil Company since 1918, was elected chairman of the mineral section of the American Bar Association at the association's annual meeting in Philadelphia last week. He succeeds Robert E. Hardwicke, Fort Worth.

GEORGE VORBE, Midland consulting geologist, is in charge of reservations for the West Texas Geological Society's annual field trip, which will be made to Eddy County, New Mexico, starting at Carlsbad on September 27. Participants will study the relation of subsurface to surface formations. Neil H. Wills, Eddy County producer; Ronald K. DeFord, Argo Oil Corporation, and George D. Riggs will conduct the caravan.

W. RICHARDSON SCHOFIELD, chief engineer for Leeds & Northrup Company, Philadelphia, has been named director of engineering. John W. Harsch, assistant chief engineer, has been advanced to chief engineer, while his former position has been filled with advancement of John F. Quereau.

RAY WILLIAMS has been appointed representative of the Kansas Corporation Commission to the Kansas Oil Scouts Association.

M. B. SWEENEY, general agent in charge of Sun Oil Company's Dallas division office, has resumed his duties after recovering from an extended illness.

L. H. GRADY and Emily Grady, Dallas, and W. T. Daniel, of Oklahoma City, have organized Mid-Plains Drilling Company with headquarters in Oklahoma City.

HAROLD WESCOTT, Al A. Thornton and William L. Murphy, Oklahoma City, have organized Premier Drilling Company.

WILLIAM W. PORTER II, Los Angeles geologist, has returned to California after completing a consulting engagement in the Philippines.

FRED WALLACE, oil industry manager for Link-Belt Company at Houston, left Miami September 19 for a two-month tour of active fields in Colombia, Venezuela and Trinidad. It is his second trip into South American countries, having made a tour late in 1939. He plans to return to the United State in time for the American Petroleum Institute meeting in Chicago.

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STANDARD AND HEAVY DUTY REAMERS

Humble Protest

[*Continued from page 184*]

mining the allotments to be assigned each, to the end that such discrimination shall be prevented," Wiess said. If the purchasers are to be permitted to select the fields producing a given grade of oil from which they are to purchase their demands, and the commission grants allowables in accordance with such demands without considering other fields producing the same grade of crude, the effect will be for a few favored fields to be credited with the market demand for the given grade of crude, leaving other fields without markets. This situation would enable the purchasing companies to meet their demand in a limited number of fields, and leave the independent producers without market or with less than their fair share of the market."

Wiess closed his letter with the statement that he was alarmed that the commission still adhered to the policy of granting exceptions "because we do not see how the proration system can possibly function effectively and fear serious consequences . . . "

Close friends of Wiess point out that he was criticized severely because no warning was given of the impending price cut which threw the state into a furore in the summer of 1939, and say that his letters are in the nature of a warning that the crude oil market is in a precarious condition.

Independents Urge Parity Between Texas Fields

North Texas oil operators who attended a hearing on Hull and Silk and KMA in Austin last week seemed far more interested in obtaining an immediate statewide proration hearing than in obtaining increases for their own fields.

In statements to the commission they pointed out that they thought parity in allowables between comparable fields was a paramount issue. Even after the commission had granted (from the bench) the exemption from shutdown requested, the applicants continued to urge that a statewide hearing be called and that the allowables for all fields be adjusted.

They explained that although they had a market for the additional oil to be produced and the commission had granted their request, the continuation of the policy would result in selective buying which would be injurious to independents.

Members and representatives of the North Texas Oil and Gas Association and the Independent Oil Producers Equity Association joined in the request for redistribution of allowables. Commissioners Thompson and Sadler, before whom the hearing was held, indicated that they were willing to grant increases where demand was proven, but that they do not intend to investigate allowables as a whole. They pointed out that full evidence was presented at the statewide hearing on August 1, after which the current order was issued.

D. G. Gray of Wichita Falls, executive secretary of the North Texas Association, said that two thirds of the Texas fields outside East Texas are now exempt from shutdown orders, and that the remaining third are being subjected to penalties as a consequence.

Rex Baker, Humble attorney, supported this contention. He said that the commission should determine the market for each grade of oil produced, then allocate that market equitably among the fields which can furnish the supply, basing this allocation on reserves or some similar yardstick.

The commissioners, from the bench, announced that both Hull and Silk and KMA would be exempt from shutdown orders through November, and that the top allowables for Hull and Silk would be increased from 28 to 40 barrels per well. This order was to become effective on September 21.

Prior to the hearing Rex Baker made public a second letter (see preceding story) from H. C. Wiess, Humble president, complaining of the method of fixing allowables.

West Virginia Oil and Gas Exposition Next Week

An Oil and Gas Exposition will be held September 30 to October 5 inclusive at Charleston, West Virginia, under the auspices of the West Virginia Oil & Natural Gas Association, which will hold its annual convention October 2-3.

Displays and exhibits will be progessively arranged from prospecting through development, transportation, compression, regulation, measurement, utilization and products. No admission charge will be made.

In order to stimulate interest of the public, appliance manufacturers have agreed to offer gate prizes each day. The prizes will include gas ranges, water heaters, gas refrigerators and radiant burners.

The association's convention program will consist chiefly of four to six non-technical talks, a picnic supper followed by entertainment, which will be open to the public also. Subjects of convention papers will include general taxes as they effect the industry, chemistry of plastic products derived from petroleum, and orderly and systematic development of oil fields.

Exhibits will be arranged as follows: complete geological exhibit sponsored by the Appalachian Geological Society; geophysical exhibit and demonstration; standard cable-tool drilling outfit with calf wheel and six sheave crown block and chain-driven sand reel; christmas tree displayed as completed producing well hooked up with pipe lines going to a compressor; thence continuing with pipe lines and pipeline accessories such as couplings, clamps, sleeves, gate valves, etc.; then through various types of regulators, orifice and displacement meters, which will be operating with compressed air; instruments used in gas measurement, such as integrators, gravitometers, calorimeters, meter provers, etc.; a complete display of the appliances of utilization, such as ranges, water heaters, gas refrigerators, space heaters, hair dryers, mangles, etc.; display of the products of plastic chemistry derived from oil and gas bases; display of carbon-black products.

As oil- and gas-field specialists, there will be an exhibit of fishing tools and unusual cable drilling tools, cement pumps, pressure control equipment, an electric welding demonstration, spudders, drilling machines, tractors, trenches, etc. Another feature will be a flame of gas of an impressive height, designed to break the chill of an early October evening and as an auxiliary to the illuminated Municipal Stadium.

NOTES FOR THE Equipment Buyer and User

Spinning Table

BAASH-ROSS TOOL COMPANY

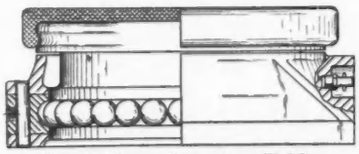
A spinning table for use in making up threaded connections of reamers, fishing tools, subs, bits and other members in the drill string has been announced by Baash-Ross Tool Company, 5512 Boyle Avenue, Los Angeles. The device fits in the square at the top of the master bushings in the same manner as a bit breaker or hole cover, and presents a rotatable surface upon which to rest the tool in a central position under the vertically hanging drill collar or drill pipe.

The spinning table consists of a square steel base with a ball race machined near the top on the inner surface, and a circular table with a downwardly projecting flange of smaller diameter than the top of the table, also machined to form a ball race. Large-diameter balls, inserted through a small side opening after the base and table are together, form a bearing for retention and also hold the two parts together. The side opening is closed by a threaded plug. The top of the table is covered with a renewable, non-skid, non-metallic cover that presents surface upon which to rest the reamer, fishing tool or other member while it is being added to the drill string.

In operation, the device is placed in the square at the top of the master bushing which locates it concentrically over the hole. The tool to be made up in the drill string is placed upon the rotatable table with the pin or box thread in line with the threaded connection of the drill collar or drill pipe hanging vertically in the elevators. As the drill collar or drill pipe is gradually lowered, a member of the crew rotates the tool upon the spinning table in order to start the thread. It is unnecessary to use chain tongs in order to rotate the tool upon the spinning table as the large lubricated bearing, formed by the balls and ball races, allows the table to turn freely. It is not necessary to rotate the drill collar or drill pipe in the elevators, as is often done when the tool is raised on the floor beside the rotary table, and the drill collar or pipe is pulled over at an angle while the joint is being made up.

The spinning table is designed to permit safety in making up reamers, fishing tools and other members in the drill string, and to do the work more quickly than by the old method. As the threaded connections are in vertical alignment while the joint is being started, the possibility of damage to the threads or shoulders through accidental cross-threading or sharp blows is lessened. The covering on the upper surface of the spinning table is designed to prevent damage to the lower connection of the tool and keeps it from slipping out of position.

The device is of all steel construction and is designed to support the heaviest loads encountered in this type of service. Tools can be lubricated by means of an ordinary grease gun.



Baash-Ross Spinning Table

Barometric Altimeter

AMERICAN ASKANIA CORPORATION

A barometric altimeter designed to aid in elevation surveys in areas where the transit, plane table or level cannot do the job quickly and economically, such as in wooded areas with short station intervals, has been announced by American Askania Corporation, 826 Merchants & Manufacturers Building, Houston.

The instrument, built similar to a mercury barometer, uses air pressure instead of a vacuum. It consists of a glass vessel protected against sudden temperature changes and equipped with a thermostat and housed in a wooden box measuring about 9 x 9 x 20 inches. Weight, including thermostat but without a necessary 6-volt battery, is 18 pounds. Reading is made on a scale where one millimeter scale division corresponds to 3 feet elevation difference. Reading accuracy is described as 0.1 mm.

Operation is similar to other altimeters. After adjustment of scale to proper reading range in area to be surveyed, and after proper heating of the instrument through thermostat, scale value is determined through checking in at stations with known elevation difference. Time necessary for reading the instrument is about ½-minute. The instrument, after clamping, is moved to the next station, and after unclamping,

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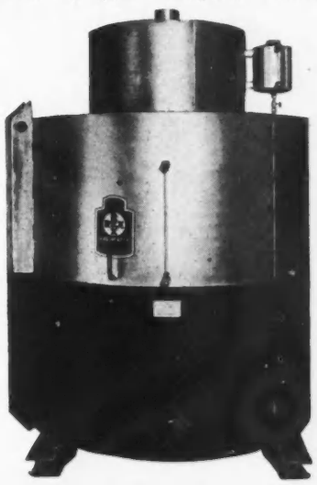

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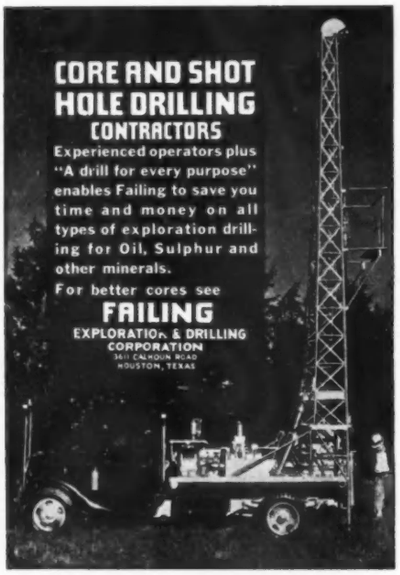
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Notes for the EQUIPMENT BUYER and USER

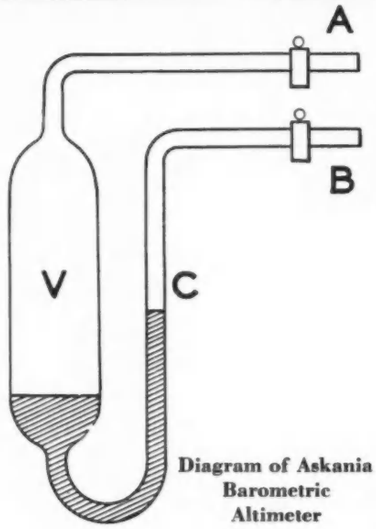

Diagram of Askania Barometric Altimeter

the reading is repeated. Drift of air pressure is said to be eliminated through proper field technique, and no correction for air temperature, humidity or air pressure gradient is necessary.

Mud Pump Gauge

ASHCROFT GAUGE DIVISION

A new mud pump gauge with a fluid-filled system and a non-corrosive stainless steel bulb, designed so that no mud or water can get into the gauge mechanism, has been announced by Ashcroft Gauge Division, Manning, Maxwell & Moore, Inc., Bridgeport, Connecticut.

The gauge has a suppressed scale with open readings over the entire working range. The case is moisture-proof and dust-proof, and has a non-breakable front. The gauge has a 2-inch male bottom connection for screwing directly on the pipe line, and the bottom part may be removed for cleaning without affecting the gauge.

It is designed to be unaffected by vibration or changes in temperature, and is guaranteed accurate to within 1 percent of the scale range. It is furnished in standard ranges 0/1500, 0/3000 and 0/5000 pounds.

Jack

TEMPLETON, KENLY & COMPANY
Templeton, Kenly's Model 2030 Jack

A jack with a 20-ton lifting and holding capacity on either cap or toe-lift has been announced by Templeton, Kenly & Company.

Designated Model 2030, the jack is 30 inches high, has a 17¾-inch lift and weighs 167 pounds with complete equipment. Besides lifting on the cap and toe, it lifts on the auxiliary shoe which hooks into the cap or on the chain with grab hook end, any link of which can be engaged with the recess in the cap.

The jack also tilts on its base for

THREE REASONS
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1. Sound in Principle.
Resilient locking collar holds with a grip that cannot be loosened by vibration.

2. Proved in Service.
Thirteen years of successful application . . . used by leading petroleum equipment manufacturers.

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Single-unit construction, and automatic self-locking action, save man-hours both in original application and in maintenance • ***Write for Catalog.***

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Elastic Stop SELF-LOCKING NUTS

MERCHANT'S PHOTO SERVICE
Headquarters for Oil Country Photography
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415 Louisiana St.

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ECOLITE 72
ELECTRIC LANTERN
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Ecolite makes a hit with oilmen who need a strong power beam of bright, searching light. This fine lantern is safe, efficient, economical — easiest to carry—tilts and pivots—puts light where you want it. Being a Dual Light you can have a beam or a bright floodlight. Carries the Underwriters' Laboratories recommendation for use in Class 1 Group D Hazards. New low prices.

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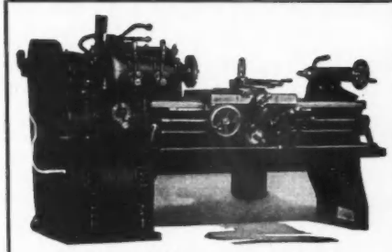

The Boye & Emmes Timken Bearing Engine Lathe

COMPLETE LINES

Machine Tools—Metal Working Machinery—Bolt and Pipe Threading Machines—Electric Arc Spot and Butt Welders—Hand Power and Electric Traveling Cranes—Foundry and Forge Shop Equipment.

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Fairfax 1466

Standco
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STANDCO BRAKE LINING
Stands the gaff and gets the job done without scoring brake rims. See page 2100 Composite Catalog.
Standco Brake Lining Co.
HOUSTON

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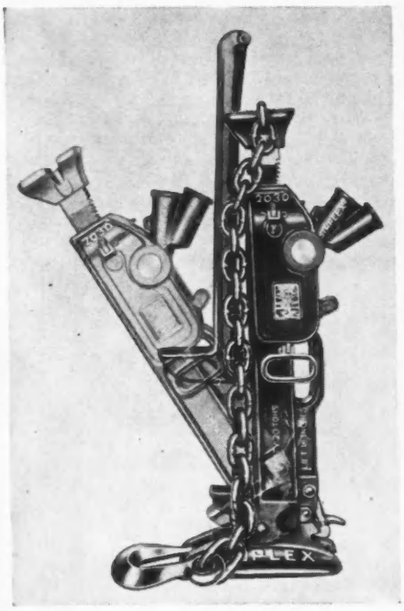
The knowledge gained through years of work and study by some of the most capable men in the oil industry is set down in the various oil books published and sold by the Gulf Publishing Company. Catalog of these books furnished upon request.
THE GULF PUBLISHING COMPANY
P. O. Box 2608 Houston, Texas

Notes for the EQUIPMENT BUYER and USER



Templeton, Kenly's Model 2030 Jack

jacking at an angle, and the tilting pawl can be released by the operator's toe. The jack may be used horizontally for pushing, spreading or pulling by using the chain.

Water Detector

WATERTECTER COMPANY

A chemical paste which, when spread in a thin layer upon a gauge stick, indicates the water level in a tank of gasoline, crude or fuel oil, has been announced by Watertecter, 1816 Statler Hotel Building, Buffalo, New York.

Pink in color and marketed in a tube container, the paste turns to white 10 seconds after immersion in water. It retains its original pink color above the water line.

Current Regulator

WAGNER ELECTRIC CORPORATION

A constant-current regulator, designated Type Y-H and comprising a regulator and controller-protector switch, has been announced by Wagner Electric Corporation, 6400 Plymouth Avenue, St. Louis.

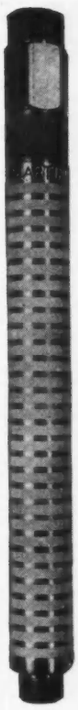
The regulator has no moving coils, but is designed to operate from no load to full load, and to immediately adjust its output voltage to varying load conditions without surges on the line or lamp circuit. It is intended for applications requiring constant current at all loads.

Feedwater Treatment

AMERICAN K. A. T. CORPORATION

An emulsion of organic materials utilizing colloidal principles, designed to remove and prevent scale formations in water stills and evaporators and to

Why Pay Penalty to SALT WATER and ABRASIVES?



Martin Plunger with Rings in Place

Most Pumping troubles are due to salt water and abrasives. Martin Plungers have solved these problems in hundreds of wells under all field conditions. They fit all types and sizes of Rod and Insert Pumps.

ONLY THE MARTIN PLUNGER
Has the One-Piece Body and Split-Ring Construction.
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Write for Illustrated Catalog. See page 1562 Composite Catalog; page K-15 Production Equipment Directory.

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GAS OIL RATIOS • RECOVERABLE OIL
CONTROL OF FLOW THRU FORMATION
REGISTERED PROFESSIONAL ENGINEERS

NOTES FOR THE Equipment Buyer and User

replace use of acid, cracking, manual or sand-blast cleaning, has been announced by American K.A.T. Corporation, 122 East 42 Street, New York City.

The compound is designed to work with all waters and to require no chemical water analyses except to determine hardness. It does not carry over with the distillate, and scale-forming impurities are coated and precipitated as a sludge.

Motors

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania, has issued Bulletin 3150 giving 4 pages descriptive of its Type CS enclosed fan-cooled squirrel cage motors from 1- to 200-horsepower. Photographs and cut-away sectional sketches describe a heat-exchange principle designed to let in no outside air but keep internal windings from overheating.

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CONTROLLED EXPANSION
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● **Controlled Expansion is an exclusive Kibele Swab feature, and a very important one. *It accounts for the long life of Kibele cups.* It is governed by regulating internal fluid pressure. Just enough expansion is permitted to make the cups contact the tubing or casing wall, thereby forming a seal which prevents by-passing. Friction is negligible, the contact being rubber to metal. Rubber compounds selected for high tensile, toughness and flexibility are used.**

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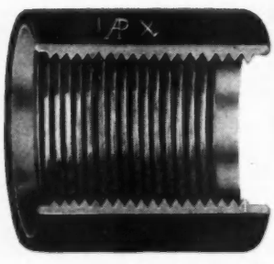

RECESSED LINE PIPE COUPLINGS

Our special patented process of recessing "XL" Couplings assures perfect alignment, tighter joints and protection of vanishing threads—giving longer life to the line. Made in strict accordance with A.P.I. standards in all sizes. Microscopically tested by a J.-&-L. Comparator to insure maximum accuracy.

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WHEELING MACHINE PRODUCTS CO.
WHEELING **WEST VIRGINIA**

Babcock & Wilcox Names Cuba Representative

The Babcock & Wilcox Tube Company, Beaver Falls, Pennsylvania, has appointed MacFarlane Foundry & Honolulu Iron Works, with headquarters at Sagua La Grande, as Cuba boiler tube distributor. The company maintains business offices in Apartado No. 109, Edif. Gomez Mena, Havana.

Key Company Packages Sealing Compound in Small Container

A new container for its graphite sealing compound for thread and gasket connections on lines carrying oily liquids and high-pressure steam has been announced by Key Company, East St. Louis, Illinois. The container holds 5/8 pound of paste, and has a brush applicator in the lid.

Pipe

Republic Steel Corporation, Cleveland, has issued a 44-page book on "The Pipe of Progress," describing its electric-weld process for making pipe. Printed in two colors, contents are principally pictorial with 32 individual photos and drawings depicting principal manufacturing steps. Fifteen pages show how pipe is made, and 14 pages describe the company's normalized oil-country casing and tubing. A 2-page pictorial flow chart shows important steps in production from ore to the field. Other subjects include qualities of electric-weld pipe, pipe-line service, and structural and mechanical applications, such as conveyor and idler rolls, foundation piling, columns, hoist pipe, and road scrapers.

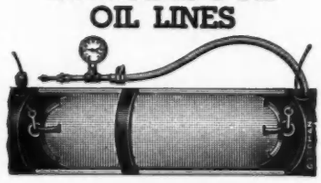
Mud Screen

Link-Belt Company, 307 North Michigan Avenue, Chicago, has issued Folder 1872 describing new higher-capacity vibrating screens for reconditioning rotary drilling mud. It describes two sizes, 24 x 48-inch and 48 x 60-inch, both portable and designed for shallow, medium and deep-well service. Features, complete specifications and dimensions for both individual and dual-hook-up are described in the folder.

Gear Sprockets

The National Supply Company, Toledo, Ohio, has issued Bulletin 279 describing its machine-cut sprockets for chain-drive service. Its four pages dscribe manufacture of the sprockets with emphasis on tooth form and hardened driving faces, and describe their application.

STOPPERS FOR OIL LINES



Send for catalogue
SAFETY GAS MAIN STOPPER CO.
523 Atlantic Ave. Brooklyn, N. Y.

Venezuelan Imports

[*Continued from page 192*]

an adverse effect upon prices and, therefore, upon new discoveries. In these critical times the Nation can not afford to take any action that may contribute to weakening our national defensive strength."

The national defense, also, is involved in the trend toward monopoly which is encouraged by the agreement, as contrasted with its suppression during the period when Congress was maintaining a close surveillance of the import situation, Brown told the committee.

Trend to Monopoly

"Today a very definite monopolistic trend is observed in the industry protected by the effect of low-cost imports on the domestic markets," he asserted. "One very striking illustration of this was revealed September 10, 1940, when the Navy opened bids for the purchase of various petroleum products, including 500,000 barrels of fuel oil. The only bidders for this fuel oil were companies either importing foreign petroleum of its products or else dealing in foreign petroleum or its products.

"There is a dangerous element involved in any proposal to supply an agency of the national defense with foreign petroleum products," he warned. "In the degree that we do this, we weaken the domestic industry and decrease its possibilities of service in an emergency. Such pools or wells as might be abandoned through their market being taken by foreign petroleum cannot be restored to production in many cases. The domestic petroleum industry should be maintained in a position to be in the very first line of national defense. Would it not be better to have our own trained men, our own modern equipment and our own effective industry rather than rely on all those in some foreign country, access to which might be denied in a national emergency? It would be difficult for it to maintain that position if the government itself sets the example of promoting the interests of foreign fields to the detriment of our own."

The increase of more than 40 percent in our imports from Venezuela while exports to that country expanded only 10 percent, Brown argued, is convincing evidence that the benefit of the trade agreement went to a few companies who were importing Venezuelan oil and who, during the first 8 months of this year, saved $3,700,000 as a result of the reduction in the excise taxes.

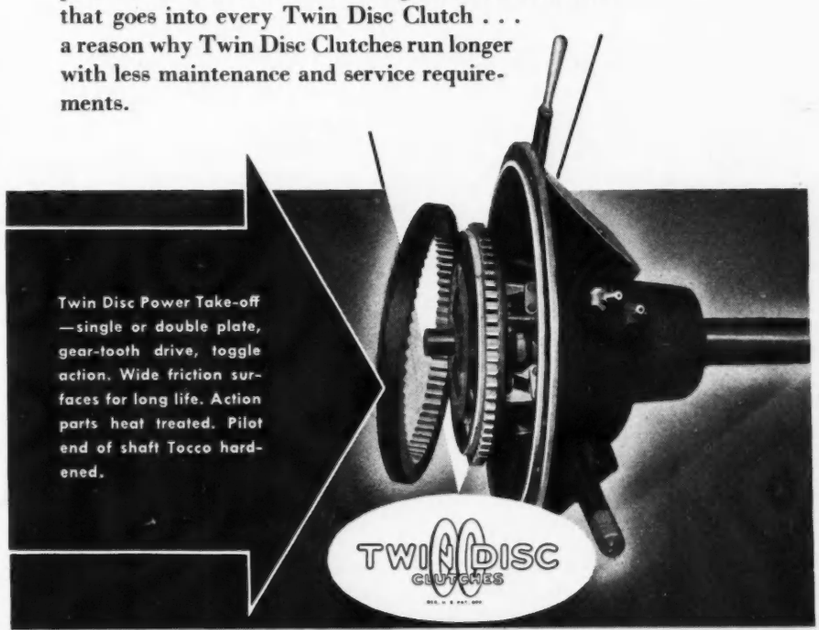
"In view of the increase in national expenditures required by the program of national defense," he suggested, "it seems inequitable to reduce the tax burden of a few large companies and shift it to those engaged in domestic activities."

One of the natural results of the Administration's trade agreement program was the conflict that arose when imports coming into direct competition with like goods produced in this country were increased, the brief commented. The attitude of the State Department toward this situation seemed to rest on the theory that whatever sacrifices might be made by individual industries were outweighed and offset by the benefits derived by those industries and by the nation from the program as a whole.

"This theory warrants close attention

It takes more than "acceptance" to hold first place

Because they are built for the job . . . and are doing it . . . Twin Disc Power Take-offs hold first place in the preference of engine builders and oil field production men . . . but it takes constant vigilance to maintain first place. For example—Induction hardening is recognized as the most modern way of assuring longer wear to drive shafts. That's why Twin Disc installed the Tocco process at their factory and use it to harden surfaces subject to wear like the pilot end of the shaft in this power take-off . . . a detail, but significant of the value that goes into every Twin Disc Clutch . . . a reason why Twin Disc Clutches run longer with less maintenance and service requirements.


Twin Disc Power Take-off —single or double plate, gear-tooth drive, toggle action. Wide friction surfaces for long life. Action parts heat treated. Pilot end of shaft Tocco hardened.
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550 ROOMS . . . 550 BATHS . . . 4 FINE RESTAURANTS

300 GUEST ROOMS . . . AND ALL PUBLIC ROOMS

AIR-CONDITIONED

"ARTIE" COMPTON, Gen'l Mgr.

and examination of the facts," Brown declared.

"The trade agreement with Venezuela demanded a sacrifice by the domestic petroleum industry. This was generally admitted by both the opponents and supporters of the agreement, as the only important concessions made on Venezuelan products applied to petroleum. In this connection it should be noted that the sacrifice by the domestic petroleum industry seems particularly large in view of the fact that the trade-agreement program has resulted in concessions covering the petroleum import trade but has obtained concessions affecting only about 4 percent of the total petroleum exports.

"The State Department has emphasized on many occasions the benefits claimed to have resulted from the trade agreements. The department has presented figures purporting to show how the agreements have increased the export markets for United States products. It seems only fair, therefore to examine the figures covering our foreign trade with Venezuela with a view to determining what benefits, if any, have been obtained by the sacrifices of the domestic petroleum industry. This is particularly important because this association brought out the fact that the Venezuelan apreement was really an agreement with a few importing companies and not with the Venezuelan nation.

Venezuelan Imports from U. S.

"One fact is immediately apparent from such an examination. Despite the trade agreement, exports to Venezuela increased only 9.9 percent as compared with a 30.8 percent increase for all South American countries. In addition, imports from Venezuela increased 40.8 percent while imports from all other countries increased only 9.6 percent. * * * It is difficult to see where these changes have been of benefit either to the Nation or to the petroleum industry. Obviously, of course, there are many factors other than the trade agreements which influence foreign trade. This is generally recognized. It seems equally obvious that no factual evidence can be produced proving that this agreement has been of benefit which would justify the sacrifices made by the domestic petroleum industry."

The association pointed out that, in response to an inquiry from Representative Robert L. Doughton (Dem., N. C.), chairman of the House Ways and Means Committee, Secretary Hull, on February 8, last, declared that "in accordance with the general policy of providing flexibility in order to safeguard the interests of our domestic producers, an escape or safeguarding clause in mutually broad terms was included in the trade agreement with Venezuela.

"This clause permits remedial action whenever—to use the language of the agreement—'special circumstances' render it necessary or advisable to do so," the secretary wrote. "The clause would permit such action with respect to petroleum or any other product included in the agreement.

"I scarcely need to assure you that the operation of the trade agreements is given constant and careful supervision in order that remedial action may be taken whenever it appears that the producer of any product might be materially injured. Nor is it necessary to add that this statement applies to the concessions granted on petroleum and other products included in the Venezuelan agreement."

Calling special attention to that letter, Brown declared:

"Since the 'special circumstances' to which Secretary of State Cordell Hull referred in his letter to the Chairman of the House Committee on Ways and Means now exist and have existed for some time and since it is apparent that they are likely to be greatly aggravated in the future through the uncontrolled imports of foreign petroleum and its products to the material injury of the domestic petroleum industry and since the State Department by inclusion of the petroleum excise taxes in the Venezuelan agreement has taken from Congress the authority to correct situations such as now exist, we urgently request your committee, to which we have been referred by the Department of State, to recommend to the Secretary of State immediate and effective action for the prevention of future damage resulting from these importations."

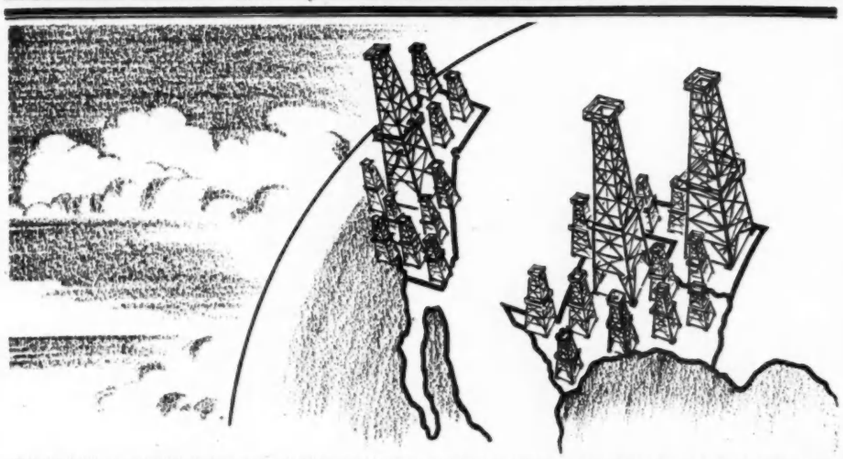
Adjust Allowables for Four Texas Fields

The Texas Railroad Commission has exempted the Segno Deep field, Tyler County, from shutdowns beginning September 21. The current allowable is 5105 barrels daily.

The commission has also exempted the East Bryson field, Jack County, effective the same day. The allowable is 2358 barrels daily.

The allowable for the Wade City field, Jim Wells County, has been raised from 4136 to 4906 barrels daily, while the Benton & Holmes field, Montague County, was raised from 433 to 770 barrels daily, both effective September 18.

It's a Fact — Johnston



RECENT ANNUAL FIGURES SHOW THAT WILDCAT DRILLING IN OKLAHOMA AVERAGED ONE PRODUCER OUT OF EVERY FOUR WELLS DRILLED . . . IN TEXAS ONE OUT OF EVERY EIGHT . . . AND IN CALIFORNIA ONE OUT OF EVERY TWELVE!

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"WHY SET CASING BEFORE YOU KNOW!"

Squeaks from the Bull Wheel

Then Came the Dawn

A student recently stayed up all night figuring out what became of the sun when it went down.

It finally dawned on him.

New Use

"Hope you liked those Chinese back-scratchers I sent you from the fair."

"Is that what they are? Why, I've been making my husband eat his salad with them!"

Last Words

Grogan was dying and he asked his wife and children to listen to his last instructions.

"There's Finnerty," he said, "he owes us ten dollars."

"'Tis a blessed thing," she said, "that ye still have all your senses."

"And there's Gilligan; he owes us fifteen dollars."

"How wonderful it is," she said to the others, "to see the poor man speakin' so sensible like!"

"And don't forget," said Grogan, "that we owe four dollars to the butcher."

"Oh," she said, "will ye listen to the man ravin'!"

That Kind

"I think I'm going to get a noiseless typewriter."

"Mine screams when I try to kiss her, too."

Life on the Ocean Wave

"I say, old chap, where have my clothes gone."

"Where did you put them, sir?"

"In the little cupboard with the small glass door."

"I'm sorry, sir, but that ain't no cupboard, sir, that's the porthole."

Can't Hurt the Wife

"Why did you beat up this man?"

"Well, judge, I comes home and catches this guy in the parlor with my wife on his lap. He monkeyed with my radio and busted it. No guy is gonna bust up my radio and get away with it!"

Raising the Ante

"I wish to announce," said the auctioneer, "that a gentleman here has had the misfortune to lose a wallet containing $500. He tells me that a reward of $25 will be given to any one returning it."

After a silence a man in the crowd shouted "I'll give $30."

Can't Beat It

"So you're with that new play."

"Yep—got the best job in the company since we lost our wardrobes."

"Oh, do you play the leading part?"

"Helno! I paint tights on the chorus girls."

Fussy

"Could you spare me a meal, guv'nor?"

"Well, I can give you some work."

"No good; work only makes me more 'ungry."

Six O'Clock

Mike had just arrived in America and Pat, his Americanized brother, was taking him from the dock out to his country home.

By the side of the road grew a persimmon tree, and Pat wishing to show Mike what fine fruit was raised in America, climbed the tree and threw a ripe persimmon down.

"Foine! Foine!" exclaimed the delighted Mike.

Pat threw down another not quite so ripe as the first. As Mike ate it without complaint, Pat threw him down a green one.

Mike ate it, but as he finished he looked at Pat, panic-stricken: "Pat! Pat!" he cried. "If you want to hear the news from the old home folks you had better come down quick. O'im closing up."

Did He Answer the Call?

One of his flock met the preachers little son on the street. "Well, son," he said, "I hear that your father has received a call to a big city church. Is he going to accept it?"

"I don't know. Father's on his knees in his study praying for guidance."

"And your mother?"

"Oh, she's upstairs, packing the trunks!"

A Good Loser

Little Pat and big Mike had a dispute, when Mike, in contempt, said: "Ye little runt, Oi could carry yez up to the fifth story in me hod."

Pat immediately took up the bet, saying: "I'd loike to see ye try that same. I'll bet yez fifty cents on it."

Before he knew it Mike had him in his hod and was going up the ladder. When he got to the fourth story his foot slipped and he almost fell. He regained his footing however, and reached the fifth story in triumph. "Oi won!" he said.

"Ye did thot," said Pat, "but Oi had high hopes when yer foot slipped."

When Justice Winks

"You are charged with exceeding the speed limit last night. Are you guilty or not guilty?"

"Well, you can decide for yourself, judge. I was in that car you passed just before they pinched me."

Consolation

A lawyer entered the condemned client's cell. "Well," he said cheerfully, "good news at last."

"A reprieve?"

"No, but your uncle has died leaving you $5,000, and you can go to your fate with the satisfying feeling that the noble efforts of your lawyer in your behalf will not go unrewarded."

Where There's a Will There's a Way

The old maid called in her lawyer and explained her last will and testament. "I want to give $3000 to the art museum, $1000 to my nephew, $1000 to the Y.M.C.A. and $1000 to the library."

"What about the remaining $500?"

"I've never had a lover, and I'll give that to anyone who will kiss and make love to me."

"I'll do it," said the lawyer. He hurried home and explained to his wife. That evening he called at the old maid's home.

At nine o'clock his wife became nervous and called on the phone.

"It's all right, dearie," he explained. "She has cut off the art museum and the library, and if you'll let me stay another hour she'll drop the Y.M.C.A."

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GOTT Water Coolers are the convenient way to keep drinking water handy to the worker, protect it from impurities. Their exclusive construction keeps water cool for long periods. Snug fitting large removable top, handy non-leaking push button faucet. GOTT Water Cans for handy field use. Your Supply Store has them, get one today! . . . .
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KEEP PURE DRINKING WATER ALWAYS HANDY